SHARP SERVICE MANUAL

No. 00ZUX177H/SME

FACSIMILE

MODEL UX-177

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PARTS GUIDE

Parts marked with "⚠" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after-sales service only.
The contents are subject to change without notice.

CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's
instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type recommandé par le constructeur.
Mettre au rébut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfare vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

CHAPTER 1. GENERAL DESCRIPTION

[1] Specifications

Applicable telephone line:	Public switched telephone network
Compatibility:	ITU-T (CCITT) G3 mode
Configuration:	Half-duplex, desktop transceiver
Compression scheme:	Modified Huffman and Sharp special mode
Scanning method:	Flat-bed, solid-state CCD
Resolution:	Horizontal: 8 dot/mm Vertical: Standard Fine/Halftone–7.7 lines/mm Super fine–15.4 lines/mm
Recording system:	Thermal recording
Display:	7 x 5 dots, 1 line by 16-digit display
Reception modes:	FAX/TEL/TEL-FAX/A.M.
Modem speed:	9600 bps with automatic fallback to 7200, 4800, or 2400 bps
Transmission time* :	Approx. 15 seconds (Sharp special mode)
Effective recording width:	210 mm, max.
Input document size:	Automatic feeding: Width — 148 to 216 mm Length — 128 to 297 mm Manual feeding: Width — 148 to 216 mm Length — 128 to 1000 mm
Effective scanning width:	210 mm
Automatic document feeder:	20 sheets max.
Halftone (gray scale):	64 levels
Contrast control:	Automatic/Dark selectable
Copy function:	Standard
Telephone function:	Standard (cannot be used if power fails)
Noise emission:	Less than 70 dBA (Measured according to DIN 45635.)
Power requirements:	230 V AC, 50 Hz
Operating temperature:	5 to 35°C
Power consumption:	Stand-by: 8 W Maximum: 120 W
Dimensions:	Width: 341 mm Depth: 257 mm Height: 123 mm
Weight:	2.9kg

* Based on ITU-T (CCITT) Test Chart #1 at standard resolution in Sharp special mode, excluding time for protocol signals (i.e., ITU-T phase C time only).

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for procduct improvement without prior notice. The performance specifications figures indicated are nominal values of production units. There may be some deviation from these values in individual units.

[2] Operation Panel

FUNCTION key
Press this key to select various special functions.

RESOLUTION key
Press this key to adjust the resolution and contrast before sending or copying a document.

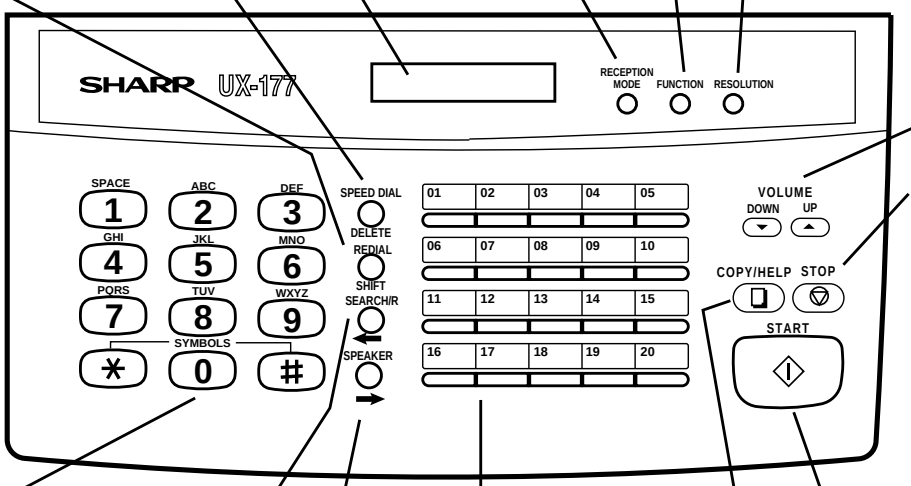
Display
This displays various messages during operation and programming.

RECEPTION MODE key
Press this key to select the mode of reception.

SPEED DIAL key
Press this key to dial a 2-digit. Speed Dial number.

VOLUME key
Press these keys to adjust the volume of the speaker when the **SPEAKER** key has been pressed, or the volume of the ringer at all other times.

REDIAL key
Press this key to automatically redial the last number dialed.



STOP key
Press this key to stop operations before they are completed.

Number keys
Use these keys to dial numbers, and enter numbers and letters during number/name storing procedures.

Rapid keys
Use these keys to dial fax and voice numbers automatically. Rapid key 01 (indicated by the blue logo) also serves as an access key when using the Mercury Service. (Note that you must attach the Rapid key labels.)

START key
Press this key to send or receive a document.

SEARCH/R key
Press this key to search for an automatic dialing number, or, if you are on a P.b.x. exension, press this key to transfer or put the other party on hold.

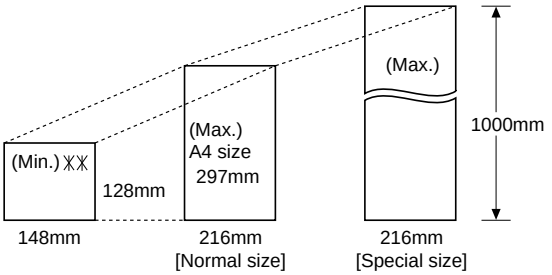
SPEAKER key
Press this key to dial a number without picking up the handset.

COPY/HELP key
When a document is in the feeder, press this key to make a copy. At any other time, press this key to print out the help list, a quick reference guide to the operation fo your.

[3] Transmittable Documents

1. Document Sizes

Normal size	width	148 – 216 mm
	length	128 – 297 mm



※ Use document carrier sheet for smaller documents.

* With special sizes, only one sheet can be fed into the machine at a time. Insert next page into feeder as current page is being scanned.

2. Paper Thickness & Weight

Normal size	ADF 10 sheets	Thickness	0.06–0.12 mm
		Weight	52–104 g/m^2
	ADF 20 sheets	Thickness	0.06–0.09 mm
		Weight	52–74.3 g/m^2
Special size		Thickness	0.12–0.20 mm
		Weight	52–157 g/m^2

3. Document Types

- Normal paper

  Documents handwritten in pencil (No. 2 lead or softer), fountain pen, ball-point pen, or felt-tipped pen can be transmitted.
  Documents of normal contrast duplicated by a copying machine can also be transmitted.

- Diazo copy (blue print)

  Diazo copy documents of a normal contrast may be transmitted.

- Carbon copy

  A carbon copy may be transmitted if its contrast is normal.

4. Cautions on Transmitting Documents

- Documents written in yellow, greenish yellow, or light blue ink cannot be transmitted.
- Ink, glue, and correcting fluid on documents must be dry before the documents can be transmitted.
- All clips, staples and pins must be removed from documents before transmission.
- Patched (taped) documents should be copied first on a copier and then the copies used for transmission.
- All documents should be fanned before insertion into the feeder to prevent possible double feeds.

5. Automatic Document Feeder Capacity

Number of pages that can be placed into the feeder at anytime is as follows:

Normal size: max. ADF 20 sheets

Special size: single sheet only (manual feed)

NOTES:
- When you need to send or copy more pages than the feeder limit, place additional pages in feeder when last page in feeder is being scanned.
- Place additional pages carefully and gently in feeder.

  If force is used, double-feeding or a document jam may result.

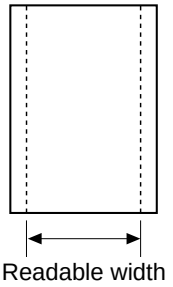
6. Readable Width & Length

The readable width and length of a document are slightly smaller than the actual document size.

Note that characters or graphics outside the effective document scanning range will not be read.

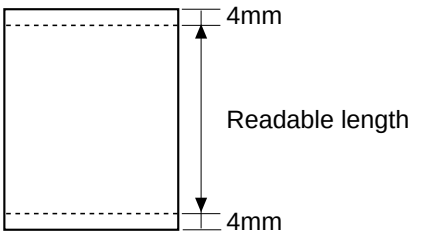
- **Readable width**

210 mm, max.



- **Readable length**

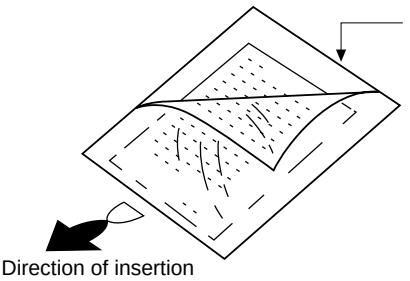
This is the length of the document sent minus 4 mm from the top and bottom edges.



7. Use of Document Carrier Sheet

A document carrier sheet must be used for the following documents.

- Those with tears.
- Those smaller than size 148 mm (W) x 128 mm (L).
- Carbon-backed documents


Make print straight across paper
E.G.
Place the document carrier in the document feeder with the clear film side down
Direction of insertion

NOTE: To transmit a carbon-backed document, insert a white sheet of paper between the carbon back of the document and the document carrier.

- Those containing an easily separable writing substance (e.g., tracing paper written on with a soft, heavy lead pencil).

NOTES:
- When using the document carrier, carefully read the instructions written on the back.
- If the document carrier is dirty, clean it with a soft, moist cloth, and then dry it before using for transmission.
- Do not place more than one document in the carrier at a time.

[4] Installation

1. Site selection

Take the following points into consideration when selecting a site for this model.

ENVIRONMENT

- The machine must be installed on a level surface.
- Keep the machine away from air conditioners, heaters, direct sunlight, and dust.
- Provide easy access to the front, back, and sides of the machine.

  In particular, keep the area in front of the machine clear, or the original document may jam as it comes out after scanning.
- The temperature should be between 5° and 35°C.
- The humidity should be between 30% and 85% (without condensation).

ELECTRICITY

230V, 50Hz, grounded (3-prong) AC outlet is required.

Caution!

- Connection to a power source other than that specified will cause damage to the equipment and is not covered under the warranty.
- If your area experiences a high incidence of lightning or power surges, we recommend that you install a surge protector for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores.

If the machine is moved from a cold to a warm place...

If the machine is moved from a cold to a warm place, it is possible that the reading glass may fog up, preventing proper scanning of documents for transmission. To remove the fog, turn on the power and wait approximately 2 hours before using the machine.

TELEPHONE JACK

A standard RJ-11C telephone jack must be located near the machine. This is the telephone jack commonly used in most homes and offices.

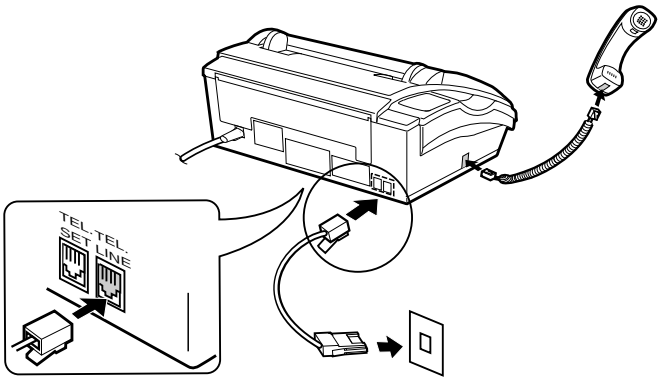
- Plugging the fax machine into a jack which is not an RJ-11C jack may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or needed to have one installed, contact the telephone company.

2. Assembly and connections

① Connect the handset cord to the handset and the fax as shown.

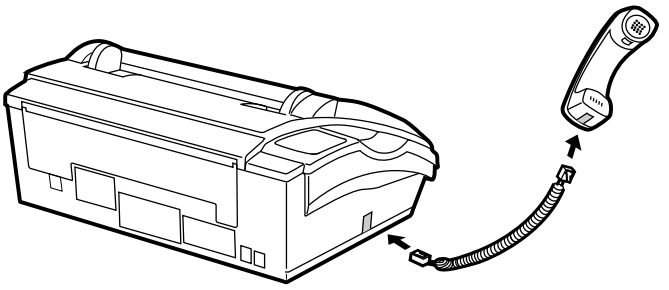
- The ends of the handset cord are identical, so they will go into either socket.

Place the handset on the handset rest.



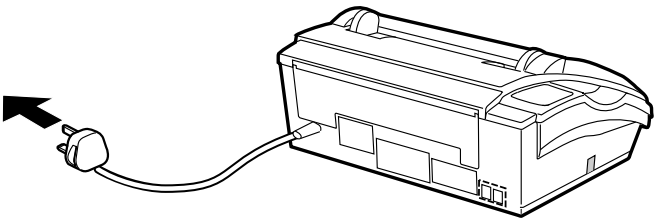
② Insert one end of the line cord into the socket on the back of the machine marked **TEL. LINE**. Insert the other end into a wall telephone socket.

- Be sure to plug the line cord into the **TEL. LINE** socket. **Do not** plug it into the **TEL. SET** socket. (Note: The **TEL. SET** socket is not available in some countries.)

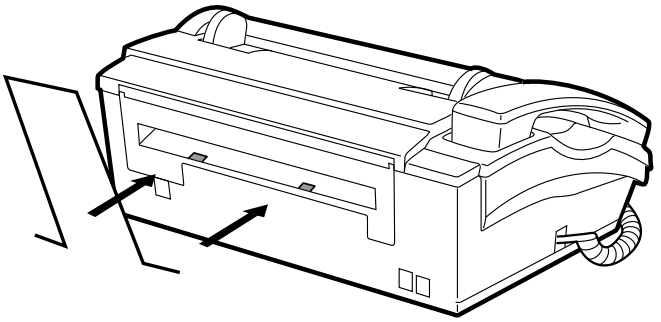


③ Plug the power cord into a 230V, 50Hz, grounded (3-prong) AC outlet.

- **Caution:** The mains outlet (socket-outlet) shall be installed near the equipment and shall be easily accessible.
- The fax does not have a power on/off switch, so the power is turned on and off by simply plugging in or unplugging the power cord.



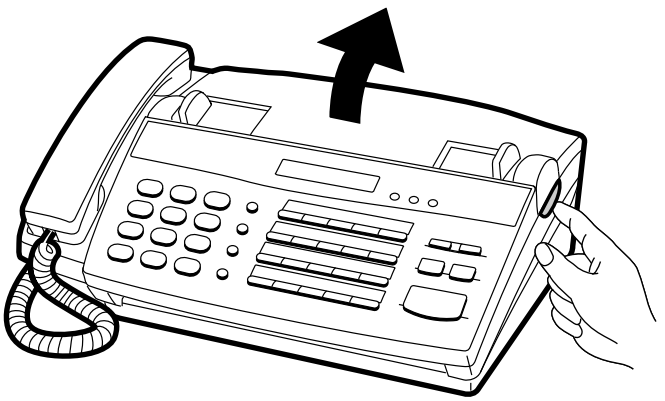
④ Attach the received document support by inserting the ends into the holes in the fax as shown below.



4. Loading the recording paper

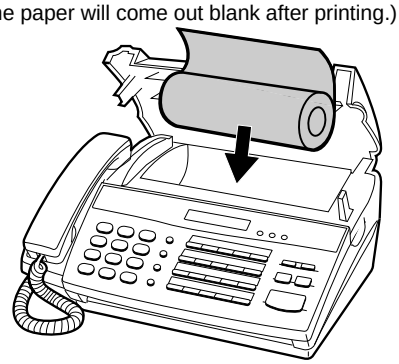
① Grasp the finger hold on the right side of the paper compartment cover, and pull up to open the cover.
Remove the packing paper from the paper compartment.

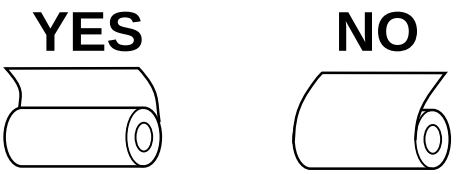
- **Caution!** If you are replacing the paper, do not touch the metal strip in the compartment. It may be hot if a document has just been printed.



② Unwrap the roll of fax paper and insert it in the compartment.

- Make sure the hubs on each side of the compartment fit into the ends of the roll. The hub on the left side is mounted on a spring to allow for insertion.
- **Important:** The roll must be placed so that the leading edge of the paper feeds from over the top of the roll. (The paper is only coated on one side for printing. If the roll is placed upside down, the paper will come out blank after printing.)

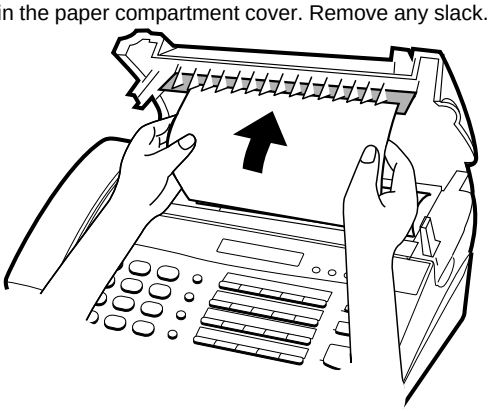




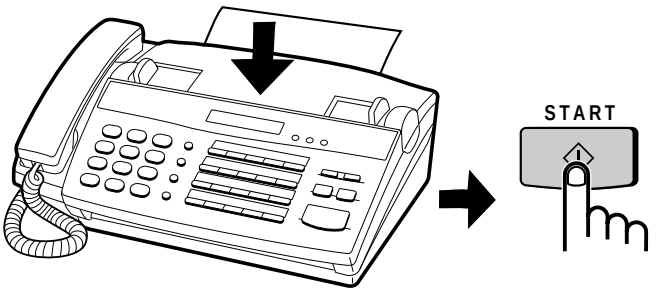
Note: The paper roll provided is only a sample roll which is approximately 50 m long.

THERMAL PAPER: FO-40PRw

③ Pass the leading edge of the paper over the roller and through the outlet in the paper compartment cover. Remove any slack.



④ Close the cover and then press the START key. A short length of the fax paper will feed out. Grasp the paper by the edge and pull upward to tear it off.



[5] Quick reference guide

Use this guide as a convenient reminder for operating the machine after you have read the detailed instructions for each procedure in the manual.

Note:

- Steps which are optional are enclosed in a dotted frame: [ ]

Transmitting documents

Normal Dialing	Load document → RESOLUTION → Lift handset or press **SPEAKER** → Dial (press numeric keys) → Wait for reception tone → START → Hang up
Direct Keypad Dialing	Load document → RESOLUTION → Dial (press numeric keys) → START
Rapid Key Dialing	Load document → RESOLUTION → Press Rapid key
Speed Dialing	Load document → RESOLUTION → SPEED DIAL → Enter Speed Dial number (press 2 numeric keys) → START
Redialing	Load document → RESOLUTION → REDIAL → Wait for reception tone → START

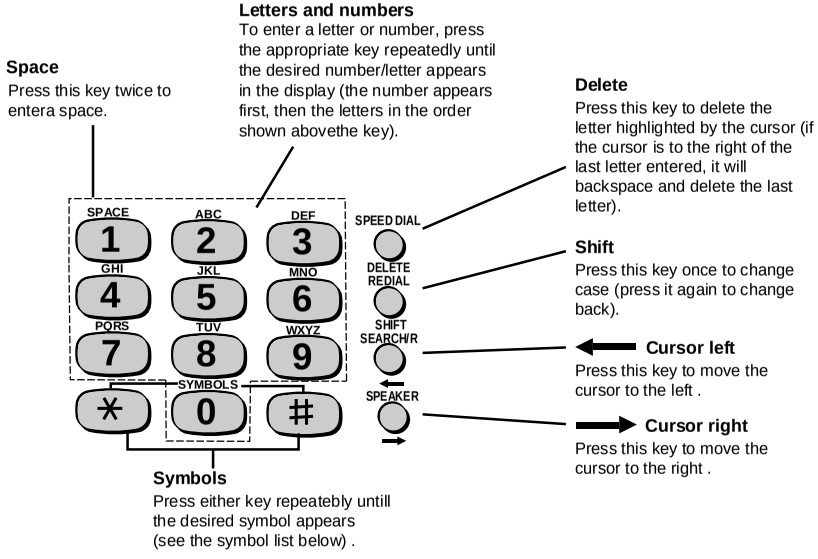
Making voice calls

Normal Dialing	Lift handset or press **SPEAKER** → Dial (press numeric keys) → Lift handset if you pressed **SPEAKER**
Rapid Key Dialling	Lift handset or press **SPEAKER** → Press Rapid key → Lift handset if you pressed **SPEAKER**
Speed Dialing	Lift handset or press **SPEAKER** → SPEED DIAL → Enter Speed Dial number (press 2 numeric keys) → Lift handset if you press **SPEAKER**
Redialing	REDIAL → Lift handset

FUNCTION key menu

The following chart shows the layout of the functions and settings accessed by pressing the **FUNCTION** key. First press the **FUNCTION** key, the appropriate numeric key as shown, and then "#" or " ✳ " until the desired item appears.
Instructions for making each setting appear in the display. If you have any difficulty, refer to the detailed instructions on the page shown below the setting.

Printing out lists	FUNCTION → 2 → # or ✳ (Press until desired item appears)
Entering your name and FAX number	FUNCTION → 3 → # #
Setting the date and time	FUNCTION → 3 → ✳ ✳ ✳
Storing Numbers For Automatic Dialing	FUNCTION → 3 → # → 1 or 2
Setting User Switches	FUNCTION → 4 → # or ✳ (Press until desired item appears)


Letters and numbers
To enter a letter or number, press the appropriate key repeatedly until the desired number/letter appears in the display (the number appears first, then the letters in the order shown abovethe key).
Space
Press this key twice to entera space.
Delete
Press this key to delete the letter highlighted by the cursor (if the cursor is to the right of the last letter entered, it will backspace and delete the last letter).
Shift
Press this key once to change case (press it again to change back).
Cursor left
Press this key to move the cursor to the left .
Cursor right
Press this key to move the cursor to the right .
Symbols
Press either key repeatebly untill the desired symbol appears (see the symbol list below) .
SPACE
ABC
DEF
GHI
JKL
MNO
PQRS
TUV
WXYZ
SYMBOLS
SPEED DIAL
DELETE REDIAL
SHIFT SEARCH/R
SPEAKER

CHAPTER 2. ADJUSTMENTS

[1] Adjustments

General

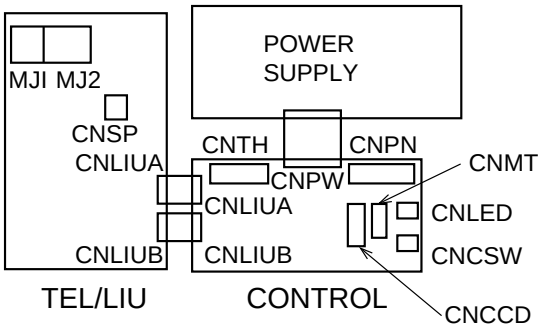
Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

1. Adjustments

Adjustments of output voltage (FACTORY ONLY)

1. Install the power supply unit in the machine.
2. Set the recording paper and document.
3. When the document is loaded, power is supplied to the output lines. Confirm that outputs are within the limits below.

Output voltage settings



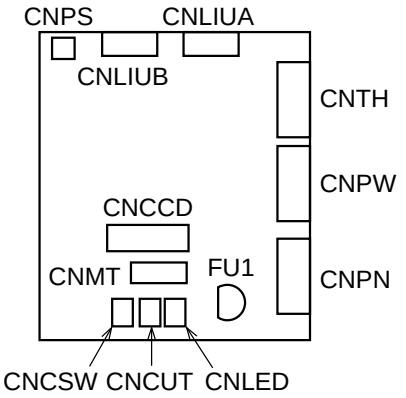
Output	Voltage limits
+5V	4.75V ~ 5.25V
+24V	23.3V ~ 24.7V

Connector No. / Pin No.	CNPW
1	DG
2	DG
3	+5V
4	VTH-ON
5	MG
6	MG
7	+24V
8	VTH
9	VTH

2. IC protectors replacement

ICPs (IC Protectors) are installed to protect the motor driver circuit and the plunger drive circuit. ICPs protect various ICs and electronic circuits from an overcurrent condition.

The location of ICPs are shown below:



(1) FU1 (ICP-N20) is installed in order to protect IC's from an over-current generated in the motor drive circuit. If FU1 is open, replace it with a new one.

3. Settings

(1) Dial mode selector

DIAL mode (Soft Switch No. SWB4 DATA No. 3)

(step 1) Select "OPTION SETTING".

KEY : [FUNCTION] (4)

DISPLAY: [OPTION SETTING] ⇔ [PRESS＊ OR #]

(step 2) Select "DIAL MODE".

KEY: (#)(#)(#)(#)(#)(#)(#)

Cursor
When initially registering, the mode shows 1=TONE.
When registering again, the mode which was registered formerly is shown.

DISPLAY: [DIAL MODE] ⇔ [1=TONE, 2=PULSE]

(step 3) Select, using "1" or "2".

KEY: (1)

DISPLAY: [TONE SELECTED]

KEY: (2)

DISPLAY: [PULSE SELECTED]

(step 4) End, using the "STOP" key.

KEY: (▽) **STOP**

[2] Diagnostics and service soft switch

1. Operating procedure

(1) Entering the diagnostic mode

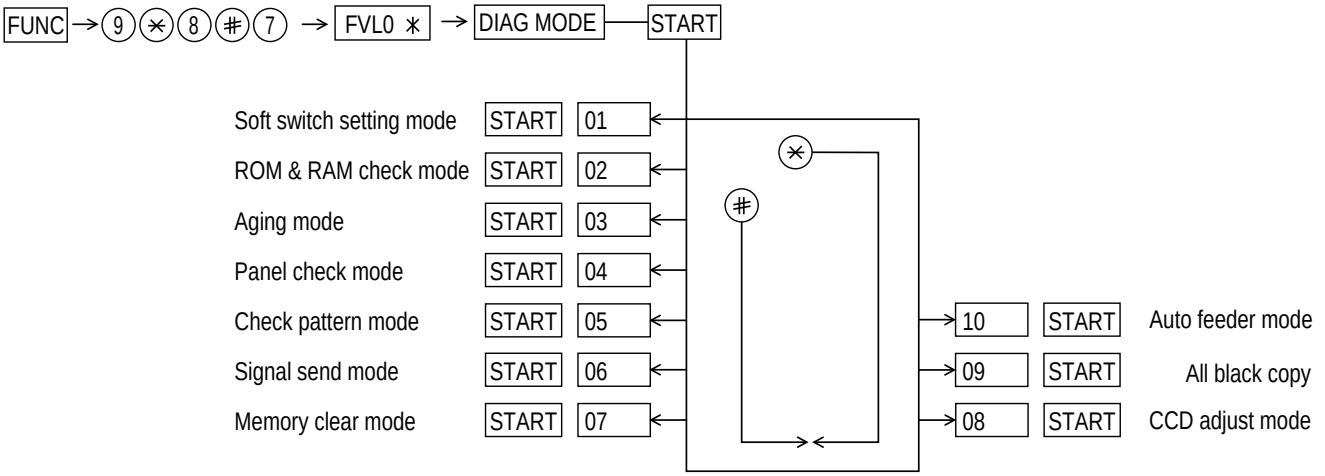
Press [FUNC] → [9] → [✳] → [8] → [#] → [7] , and the following display will appear.

[FVL0✳] After 2 sec: [DIAG MODE]

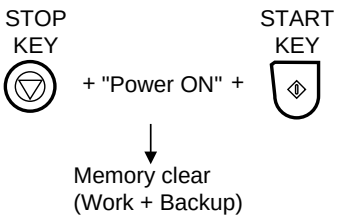
FVL0✳ Identical

Then press the [START] key. Select the desired item with the [✳] key or the [#] key or select with the rapid key. Enter the mode with the START key.

(Diag•specifications)


FUNC → 9 ✳ 8 # 7 → FVL0 ✳ → DIAG MODE — START
Soft switch setting mode START 01
ROM & RAM check mode START 02
Aging mode START 03
Panel check mode START 04
Check pattern mode START 05
Signal send mode START 06
Memory clear mode START 07
10 START Auto feeder mode
09 START All black copy
08 START CCD adjust mode

If the dial mode cannot be set, repeat the dial mode operation, performing the following operation.
After the power is turned on and "WAIT A MOMENT" is indicated, press the STOP key.



"Power ON" keep the STOP key pressed
while "WAIT A ...." is indicated.
Press the START key when "MEMORY CLEAR?" appears.

2. Diagnostic items

ITEM No.	RAPID key	Contents	Function
1	01	Soft switch setting mode	Display soft SW contents, and changes the setting.
2	02	ROM & RAM check mode	Checks program ROM (128KByte) and work RAM (32KByte).
3	03	Aging mode	Prints the check pattern at the speed of 1 sheet/5 minutes.
4	04	Panel check mode	Displays the name of key depressed on the operation panel.
5	05	Check pattern mode	Prints 2 sheets of check pattern.
6	06	Signal send mode	Sends modem signals sequentially.
7	07	Memory clear mode	Clears the backup memory contents to reset it to the initial state.
8	08	CCD adjust mode	Used for CCD adjustment. Executes copy operation. When the STOP key is pressed, the unit goes into the wait state. When the START key is pressed again, the unit starts operation again.
9	09	All black copy	Performs all-dot printing (2m). (Check thermal head operation)
10	10	Auto feeder mode	Feeds the original documents.

3. Diagnostic items description

3. 1. Soft switch setting mode

Used to change the soft switch settings.

The soft switch which is stored internally is set by using the keys.

The available soft switches are SW-A1 to SW-K1.

The content of soft switches is shown in page 2-5 to 2-13.

The contents are set to factory default settings.

3. 2. ROM & RAM check mode

ROM executes the sum check, and RAM executes the matching test. The result will be notified with the number of short sounds of the buzzer as well as by printing the ROM & RAM check list.

Number of short sounds of buzzer 0 → No error
1 → ROM error
2 → RAM error (32Kbyte)

3. 3. Aging mode

If any document is first present, copying will be executed sheet by sheet. If no document is present, the check pattern will be printed sheet by sheet. This operation will be executed at a rate of one sheet per 5 minutes, and will be ended at a total of 10 sheets.

3. 4. Panel check mode

In this mode, whether each key operates properly or not is checked. Press a key on the operation panel, and the corresponding key will be displayed. In this mode, press the STOP key, and the list of the keys pressed in this mode will be printed with the mode ended.

Whether all keys are pressed in this mode or not will be judged when the list is printed, and the result will be printed.

3. 5. Check pattern mode

This mode is used to check the status of print head. Two sheets of check pattern are printed. The following information of check pattern is printed.

① Vertical stripes (alternate white and black lines) Approx. 35 mm
② Full black Approx. 70 mm
③ Full white Approx. 35 mm

3. 6. Signal send mode

This mode is used to send various signals to the line.

FAX signals are sent in the level set by the soft switch.

[1] No signal (CML signal turned on)
[2] 9600bps
[3] 7200bps
[4] 4800bps
[5] 2400bps
[6] 300bps (FLAG)
[7] 2100Hz (CED)
[8] 1100Hz (CNG)
[9] END

The signal can be checked by plugging the handset into the TEL line connector on the rear of the machine.

3. 7. Memory clear mode

This mode is used to clear the backup memory and reset to the default settings.

3. 8. CCD adjust mode

This mode is used to adjust the optical system. Since the copy is function performed, set the original. To abort the copy operation, press the STOP key. To restart press the START key. When the copy is completed or when the STOP key is pressed in the interruption state, exit from this mode occurs.

3. 9. All back copy

This mode is used to check the print head.

All-dot print is executed unconditionally until 2(m) is obtained except when any trouble occurs (recording paper has run out, recording paper jam, thermal protect).

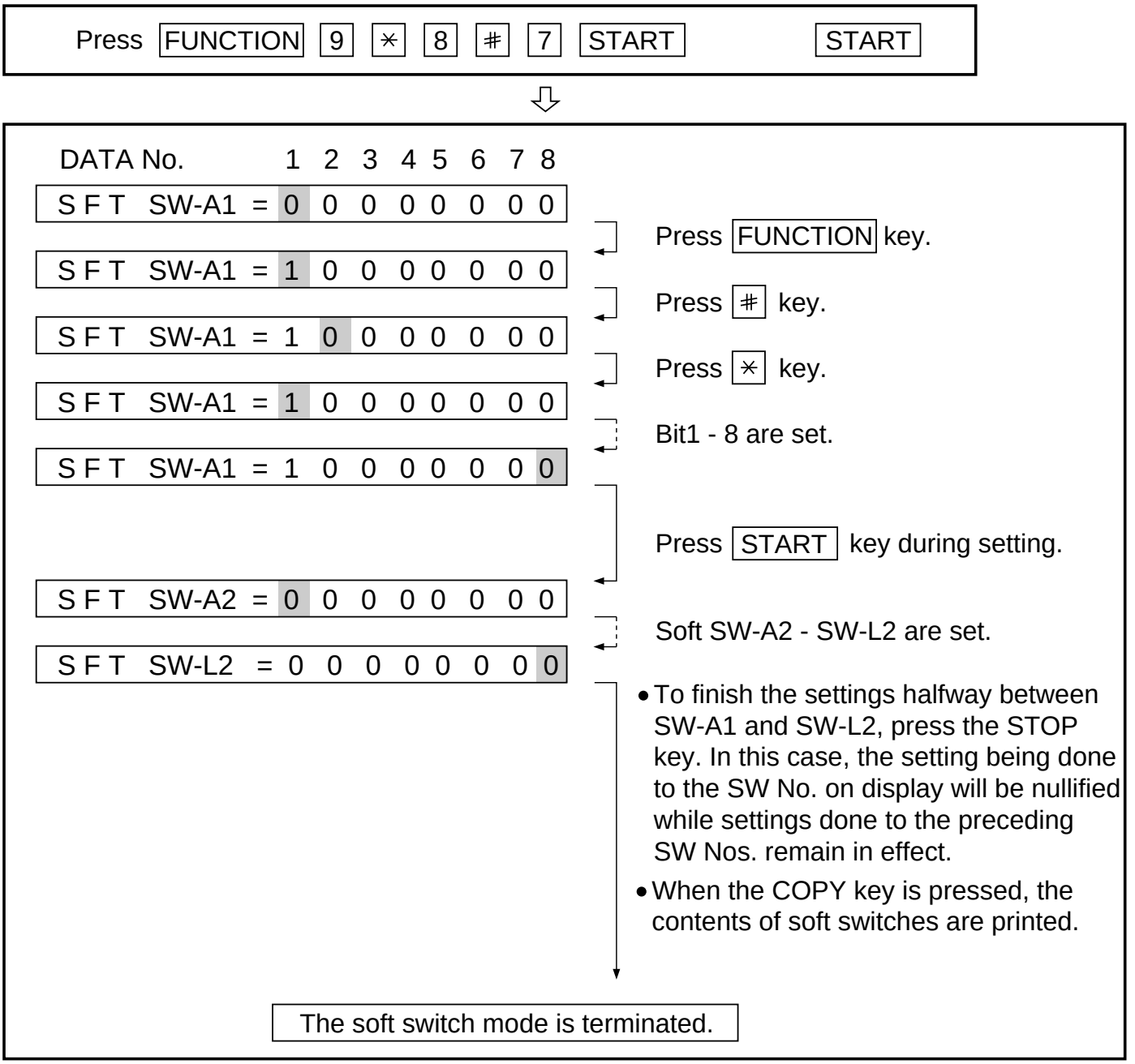
3. 10. Auto feeder mode

In this mode, a document is inserted and discharged to check the auto feed function.

After this mode is started, set a document, and the document feed will be automatically tested.

4. How to make soft switch setting

To enter the soft switch mode, make the following key entries in sequence.


Press FUNCTION 9 ✳ 8 # 7 START START
DATA No. 1 2 3 4 5 6 7 8
S F T SW-A1 = 0 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A2 = 0 0 0 0 0 0 0 0
S F T SW-L2 = 0 0 0 0 0 0 0 0
Press FUNCTION key.
Press # key.
Press ✳ key.
Bit1 - 8 are set.
Press START key during setting.
Soft SW-A2 - SW-L2 are set.
• To finish the settings halfway between SW-A1 and SW-L2, press the STOP key. In this case, the setting being done to the SW No. on display will be nullified while settings done to the preceding SW Nos. remain in effect.
• When the COPY key is pressed, the contents of soft switches are printed.
The soft switch mode is terminated.

5.Soft switch description

- **Soft switch**

SW NO.	DATA NO.	ITEM	Switch Setting and Function					Initial setting	Remarks
			1		0				
SW | A1	1	Protect from echo	No		Yes			0	
	2	Forced 4800bps reception	Yes		No			0	
	3	Footer print	Yes		No			1	
	4	Length limitation of copy/send/receive	No limit		Copy/Send: 1m Receive: 1.5m			0	
	5	CSI transmission	No transmitted		Transmitted			0	
	6	DIS receive acknowledgement during G3 transmission	Twice		NSF: Once DIS: Twice			0	
	7	Non modulated carrier for V29 transmission mode	Yes		No			1	
	8	EOL detect timer	25s		13s			0	
SW | A2		Modem speed		9600BPS	7200BPS	4800BPS	2400BPS		
	1		No. 1	0	0	0	0	0	
	2		No. 2	0	0	0	0	0	
	3		No. 3	0	1	1	0	0	
	4		No. 4	1	1	0	0	1	
	5	Sender's information transmit	No		Yes			0	
	6	H2 mode	No		Yes			0	
	7	Communication error treatment in RTN sending mode (reception)	No communication error		Communication error			1	
	8	CNG transmission	No		Yes			0	
SW | A3	1	CED tone signal interval		1000ms	750ms	500ms	75ms		
	2		No. 1	1	1	0	0	0	
			No. 2	1	0	1	0	1	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | A4	1	Signal transmission level	Binary input	16	8	4	2	1	0
	2		No. =	1	2	3	4	5	1
	3			0	1	0	1	1 (-11dBm)	0
	4								1
	5								1
	6	Protocol monitor (error print)	Printed at com. err		Not printed			0	
	7	Protocol monitor	Yes		No			0	
	8	Line monitor	Yes		No			0	
SW | A5	1	Digital line equalization setting (Reception)		7.2km		0km			
	2		No. 1	1		0		1	
			No. 2	1		0		1	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Error criterion	10 ~ 20%		5 ~ 10%			0	
	8	Anti junk fax check	Yes		No			0	OPTION
SW | A6	1	Auto gain control (MODEM)	Enable		Disable			1	
	2	End Buzzer	Yes		No			1	
	3	Disconnect the line when DIS is received in Rx mode	No		Yes			1	
	4	Equalizer freeze control (MODEM)	On		Off			0	
	5	Equalizer freeze control 7200 bps only	No		Yes			0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch Setting and Function					Initial setting	Remarks
			1				0		
SW | B1	1	Recall interval	Binary input	8	4	2	1	0	
	2		No. =	1	2	3	4	1	
	3			0	1	0	1	0	
	4		(5 x 60 sec = 5 min)					1	OPTION
	5	Recall times	Binary input	8	4	2	1	0	
	6		No. =	5	6	7	8	0	
	7			0	0	1	0 (Twice)	1	
	8							0	OPTION
SW | B2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | B3	1	PBX recall function (R key select)		No Ope.	No Ope.		Earth	Flash	
	2		No. 1	0	0		1	1	1	
			No. 2	0	1		0	1	1	OPTION
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Mercury line	Yes				No	1	OPTION
	7	Reserved						0	
	8	Reserved						0	
SW | B4	1	Reserved						0	
	2	Reserved						0	
	3	Dial mode	Tone				Pulse	1	OPTION
	4	Pulse → Tone change function by ✳ key	Enable				Disable	1	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | B5	1	DTMF signal transmission level (Low)	Binary input	16	8	4	2	1	1	
	2		No. =	1	2	3	4	5	0	
	3			1	0	1	0	0 (0.5 x 20 = -10 dBm)	1	
	4								0	
	5								0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	
SW | B6	1	DTMF signal transmission level (High)	Binary input	16	8	4	2	1	1	
	2		No. =	1	2	3	4	5	0	
	3			1	0	0	1	0 (0.5 x 18 = -9 dBm)	0	
	4								1	
	5								0	
	6	Reserved							0	
	7	Reserved							0	
	8	Reserved							0	

SW NO.	DATA NO.	ITEM	Switch Setting and Function					Initial setting	Remarks
			1			0			
SW | C1	1	Reading slice (Binary)		Factory setting	Light	Dark	Daker in Dark mode		
	2		No. 1	0	1	0	1	0	
			No. 2	0	0	1	1	0	
	3	Reading slice (Half tone)		Factory setting	Light	Dark	Daker in Dark mode		
	4		No. 3	0	1	0	1	0	
			No. 4	0	0	1	1	0	
	5	Line density selection	Fine			Standard		0	OPTION
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | D1	1	Number of rings for auto receive	Binary input 8 4 2 1					0	
	2		No. = 1 2 3 4					1	
	3		0 0 0 1 (4 times)					0	
	4							0	OPTION
	5	Automatic switching manual to auto receive mode	Reception after 5 rings			No reception		0	
	6	Reserved						0	
	7	Reserved						0	
	8	Ci detect frequency	20Hz or more			as is PTT		0	
SW | D2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | E1	1	Automatic switching mode	Tel/Fax auto switch			Switch to fax		1	
	2	Pseudo ringing time at the phone/fax automatic switching mode		15s	30s	60s	120s		
	3		No. 2	0	1	0	1	0	
			No. 3	0	0	1	1	0	OPTION
	4	Number of CNG signal detection at the phone/fax automatic switching mode	Twice			Once		0	
	5	CNG detect time at TEL/FAX mode	3s			5s		0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | E2	1	Pseudo ringer sound output level to the line	Binary input 8 4 2 1					0	
	2		No. = 1 2 3 4					1	
	3		0 1 0 1 -5dBm -5 = -10dBm					0	
	4		(-5 ~ -20dBm setting)					1	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | F1	1	DTMF detection time		50ms	80ms	100ms	120ms		
	2		No. 1	0	0	1	1	0	
			No. 2	0	1	0	1	0	
	3	Protection of remote reception (5 ✳✳) detect	Yes			No		0	OPTION
	4	Remote reception with GE telephone	Compatible			Not compatible		1	
	5	Remote operation code figures by external tel (0 ~ 9)	Binary input 8 4 2 1					0	
	6		No. = 5 6 7 8					1	
	7		0 1 0 1 (5 ✳✳)					0	
	8							1	OPTION

SW NO.	DATA NO.	ITEM	Switch Setting and Function					Initial setting	Remarks
			1			0			
SW | F2	1	CNG detection in STAND-BY mode	Yes			No		1	OPTION
	2	Number of CNG detect (AM mode)		1pulse	2pulses	3pulses	4pulses		
	3		No. 2	0	0	1	1	0	
			No. 3	0	1	0	1	0	
	4	Number of CNG detect (STAND-BY mode)		1pulse	2pulses	3pulses	4pulses		
	5		No. 4	0	0	1	1	0	
			No. 5	0	1	0	1	1	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | G1	1	Quiet detect time	Binary input	8 4 2 1				0	
	2		No. =	1 2 3 4				1	
	3			0 1 0 0 (4 sec)				0	
	4							0	OPTION
	5	Quiet detect start timing	Binary input	8 4 2 1				0	
	6		No. =	5 6 7 8				0	
	7			0 0 0 0 (Not wark)				0	
	8							0	OPTION
SW | G2	1	Off hook hold	Binary input	128 64 32 16 8 4 2 1				0	
	2		No. =	1 2 3 4 5 6 7 8				0	
	3			0 0 0 0 0 0 0 0				0	
	4			(0sec = No limit)				0	
	5							0	
	6							0	
	7							0	
	8							0	OPTION
SW | G3	1	OGM detect timer		Not Work	100ms	200ms	300ms		
	2		No. 1	0	0	1	1	0	
			No. 2	0	1	0	1	1	Only for Irish
	3	Reserved						0	
	4	Reserved						0	
	5	Section time of quiet detection		30s	40s	50S	60s		
	6		No. 5	0	0	1	1	0	
			No. 6	0	1	0	1	1	
	7	Reserved						0	
	8	Reserved						0	
SW | H1	1	Busy tone detection ON/OFF time (Lower duration)	350ms			200ms		0	
	2	Busy tone detection ON/OFF time (Upper duration)	650ms			900ms		0	
	3	Reserved						0	
	4	Busy tone continuous sound detect time	5s			10s		1	
	5	Reserved						0	
	6	Busy tone detect continuation sound detect	No			Yes		0	
	7	Reserved						0	
	8	Busy tone detect intermittent sound detect	No			Yes		0	
SW | H2	1	Busy tone detection pulse number		2pulses	4pulses	6pulses	10pulses		
	2		No. 1	0	0	1	1	0	
			No. 2	0	1	0	1	1	
	3	Fax switching when A.M. full	Yes			No		0	OPTION
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch Setting and Function					Initial setting	Remarks
			1			0			
SW | I1	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	CPC signal detection	Yes			No		1	
SW | I2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	CPC detection time		70ms	40ms	20ms	4ms		
	7		No. 5	0	0	1	1	0	
			No. 6	0	1	0	1	1	
	8	Reserved						0	
SW | I3	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | I4	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | I5	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | I6	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | I7	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch Setting and Function					Initial setting	Remarks
			1			0			
SW | J1	1	Reserved						0	
	2	Reserved						0	
	3	Sender's phone number setting	Cannot change			Change allowed		0	
	4	Country setting	Irish			UK		0	
	5	Reserved						0	
	6	Summer time setting	No			Yes		1	
	7	Ringer volume		Off	Low	Middle	High		
	8		No. 7	0	0	1	1	1	
			No. 8	0	1	0	1	0	OPTION
SW | J2	1	Reserved						0	
	2	Reserved						0	
	3	Polling key	Yes			No		0	OPTION
	4	Reserved						0	
	5	Reserved						0	
	6	Speaker volume		No. 6	No. 7	No. 8			
	7		VERY LOW	0	0	0			
	8		LOW	0	0	1			
			MIDDLE	0	1	0		0	
			HIGH	0	1	1		1	
			VERY HIGH	1	0	0		0	OPTION
SW | J3	1	Reserved						0	
	2	Reserved						0	
	3	Communication results printout (Transaction report)		Error/Timer	Send only	Always	No print		OPTION
	4		No. 3	0	0	1	1	0	
			No. 4	0	1	0	1	1	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | K1	1	Entering DIAG mode by pressing SPEED key	Yes			No		0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | L1	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW | L2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

• Soft switch function description

SW-A1 No. 1 Protection from echo

Used to protect from echo in reception.

SW-A1 No. 2 Forced 4800 bps reception

When line conditions warrant that receptions take place at 4800 bps repeatedly.

It may improve the success of receptions by setting at 4800 bps.

This improve the receiving document quality and reduces handshake time due to fallback during training.

SW-A1 No. 3 Footer print

When set to "1", the date of reception, the sender machine No., and the page No. are automatically recorded at the end of reception.

SW-A1 No. 4 Maximum copy, transmit, receive page length

Used to set the maximum page length.

To avoid possible paper jam, the page length is normally limited to 1 meter for copy or transmit, and 1.5 meters for receive.

It is possible to set it to "No limit" to transmit a long document, such as a computer print form, etc. (In this case, the receiver must also be set to no limit.)

SW-A1 No. 5 CSI transmission

(CSI TRANSMISSION) is a switch to set whether the machine sends or does not send the signal (CSI signal) informing its own telephone No. to the remote fax, machine when information is received. When "nonsending" is set, the telephone No. is not output on the remote transmitting machine if the remote transmitting machine has the function to display or print the telephone No. of receiving machine, using this CSI signal.

SW-A1 No. 6 DIS receive acknowledgment during G3 transmission

Used to make a choice of whether reception of DIS (NSF) is acknowledged after receiving two DISs (NSFs) or receiving one DIS (two NSFs).

It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 7 Non-modulated carrier detection for V29 modem

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT Recommendation, it may be permitted to a send non-modulated carrier before the image signal to avoid and echo suppression problem.

It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 8 EOL (End Of Line) detect timer

Used to make a choice of whether to use the 25-second or 13-second timer for detection of EOL.

This is effective to override communication failures with some facsimile models that have longer EOL detection.

SW-A2 No. 1 ~ No. 4 Modem speed

Used to set determine the initial modem speed. The default is 9600 bps.

It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for fallback procedure.

SW-A2 No. 5 Sender's information transmit

(SENDER'S INFORMATION TRANSMISSION) is a switch to set the function to print the content of HEADER PRINT described in the passcode list at the front end of receiver's original when original is sent to the remote machine.

If this switch is set to "NO", the HEADER PRINT is not output at the receiving machine.

SW-A2 No. 6 H2 mode (SHARP special mode)

Used to determine reception of H2 mode (15 sec transmission mode).

When set to OFF, H2 mode reception is inhibited even though the transmitting machine has H2 mode function.

SW-A2 No. 7 Communication error treatment (reception) in RTN sending

Used to determine communication error treatment when RTN is sent by occurrence of a received image error in G3 reception. When it is set to "1", communication error is judged as no error.

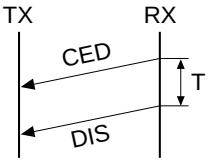
SW-A2 No. 8 CNG transmission

When set to "0", this model allows CNG transmission by pressing the Start key in the key pad dialing mode. When set to "1", CNG transmission in the key pad dialing mode cannot be performed. In either case, CNG transmission can be performed in the auto dial mode.

SW-A3 No. 1, No. 2 CED tone-signal interval

For international communication, the 2100Hz CED tone may act as an echo suppression switch, causing a communication problem.

Though SW-A3 No. 1 and No. 2 are normally set to 0, it should be changed this timer between the CED tone signal to eliminate the communication problem caused by echo.



SW-A3 No. 3 ~ No. 8 Reserved

Set to "0".

SW-A4 No. 1 ~ No. 5 Signal transmission level

Used to control the signal transmission level in the range of-0dB to -31dB.

The factory setting is at -8dB (MODEM output).

SW-A4 No. 6 Protocol monitor (Error print)

If set to "1", protocol is printed at communication error.

SW-A4 No. 7 Protocol monitor

Normally set to "0". If set to "1", communication can be checked, in case of troubles, without using a G3 tester or other tools.

When communication FSK data transmission or reception is made, the data is taken into the buffer. When communication is finished, the data analyzed and printed out. When data is received with the line monitor (SW4-No. 8) set to "1" the reception level is also printed out.

SW-A4 No. 8 Line monitor

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

SW-A5 No. 1, No. 2 Digital equalization setting (Reception)

Line equalization when reception is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 3 ~ No. 6 Reserved

Set to "0".

SW-A5 No. 7 Error criterion

Used to select error criterion for sending back RTN when receiving image data.

SW-A5 No. 8 Anti junk fax check

When use the Anti junk fax function, set to "1".

SW-A6 No. 1 Auto gain control (MODEM)

When this mode is enabled, If the reception signal level is under 31dBm. The modem itself controls the signal gain automatically.

SW-A6 No. 2 End buzzer

Setting this bit to 0 will disable the end buzzer (including the error buzzer/on-hook buzzer).

SW-A6 No. 3 Disconnect the line when DIS is received in RX mode

Bit1= 0: When DIS signal is received during RX mode, disconnect the line immediately.
Bit1= 1: When DIS signal is received during RX mode, wait the next signal.

SW-A6 No. 4 Equalization freeze control

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in unfavorable state and picture cannot be received.
* Usually, the control is executed according to the state of line where the equalizer setting is changed always.

SW-A6 No. 5 Equalization freeze 7200 bps only

Setting which specifies SW-A3 No. 6 control only in condition of 7200 bps modem speed.

SW-A6 No. 6 ~ No. 8 Reserved

Set to "0".

SW-B1 No. 1 ~ No. 4 Recall interval

Choice is made for a redial interval for speed and rapid dial calls. Used a binary number to program this. If set to "0" accidentally, 1 will be assumed.

SW-B1 No. 5 ~ No. 8 Recall times

Choice is made as to how many redials should be.

SW-B2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-B3 No. 1, No. 2 PBX recall function (R key select)

Used to set the operation mode of PBX recall when the R key is pressed.
Setting is mode according to the type of PBX.
No. 1 = 1, No. 2 = 1: Time break recall (=Flash) is performed.
The DPON on the LIU board is driven to initiate recall.
No. 1 = 1, No. 2 = 0: Earth recall is performed.
The E-relay on the LIU board is driven to initiate recall.

SW-B3 No. 3 ~ No. 5 Reserved

Set to "0".

SW-B3 No. 6 Mercury line

0: No
1: Yes
Default: 0

SW-B3 No. 7 ~ No. 8 Reserved

Set to "0".

SW-B4 No. 1, No. 2 Reserved

Set to "0".

SW-B4 No. 3 Dial mode

When using the pulse dial, set to "0". When using the tone dial, set to "1".

SW-B4 No. 4 ✳ key Pulse dial → Tone dial

When setting to 1, the mode is changed by pressing the ✳ key from the pulse dial mode to the tone dial mode.

SW-B4 No. 5 ~ No. 8 Reserved

Set to "0".

SW-B5 No. 1 ~ No. 5 DTMF signal transmission level of lower frequency

The transmission level of DTMF signal is adjusted. (lower frequency)

00000: 0 dBm

↓

11111: -15.5 dBm (-0.5 dBm x 31)

SW-B5 No. 6 ~ No. 8 Reserved

Set to "0".

SW-B6 No. 1 ~ No. 5 DTMF signal transmission level of higher frequency

The transmission level of DTMF signal is adjusted. (higher frequency)

00000: 0 dBm

↓

11111: -15.5 dBm (-0.5 dBm x 31)

SW-B6 No. 6 ~ No. 8 Reserved

Set to "0".

SW-C1 No. 1, No. 2 Reading slice (binary)

Used to determine the set value of reading density in standard/fine mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 3, No. 4 Reading slice (half tone)

Used to determine the set value of reading density in half tone mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 5 Line density selection

Used to set the transmission mode which is automatically selected when the Resolution key is not pressed. In the copy mode, however, the fine mode is automatically selected unless the Resolution key is manually set to another mode.

SW-C1 No. 6 ~ No. 8 Reserved

Set to "0".

SW-D1 No. 1 ~ No. 4 Number of rings for auto answer mode

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to four rings using a binary number. Since the facsimile telephone could be used as an ordinary telephone if the handset is taken off the hook, it should be programmed to the user's choice. If the soft switch was set to "1", direct connection is made to the facsimile.

If a facsimile calling beep was heard when the handset is taken off the hook, press the START key and put the handset on the hook to have the facsimile start receiving. If it was set to "0" accidentally, receive ring is set to "1".

NOTE: If the machine is set to answer after a large number of rings, it may not be able to receive faxes successfully.
If you have difficulty receiving faxes. reduce the number of rings to a maximum of 6.

SW-D1 No. 5 Automatic switching from manual to auto receive mode

This soft switch is used to select whether the machine should switch to the auto receive mode after 5 rings in the manual receive mode or remain in the same way as SW-D1 No. 1, No. 2, No. 3 and No. 4 "0"1"0"1" (5 rings (UK)) (3 rings (IR)).

SW-D1 No. 6, No. 7 Reserved

Set to "0".

SW-D1 No. 8 Ci detect frequency

Ring signal for auto reception is set.
When this switch is set to "0", PTT standards are set.

SW-D2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-E1 No. 1 Automatic switching mode

Used to set auto TEL/FAX switching mode or to set the normal fax mode.

SW-E1 No. 2, No. 3 Pseudo ringing time at the phone/fax automatic switching mode

Choice is made as to how long to rumble the dummy ringer on TEL/FAX automatic switching mode.

SW-E1 No. 4 Number of CNG signal detection at the phone/fax automatic switching mode

Used for detection of CNG in one tone or two tones in the TEL/FAX automatic switching mode.

SW-E1 No. 5 CNG detect time at TEL/FAX mode

The switch which sets the time from the start of the CNG detection to the end in the TEL/FAX automatic switching mode.

SW-E1 No. 6 ~ No. 8 Reserved

Set to "0".

SW-E2 No. 1 ~ No. 4 Pseudo ringer sound output level to the line (For H, A, HK/CN, MY, TH)

Used to adjust the sound volume of pseudo ringer to the line (ring back tone) generated on selecting TEL/FAX. Setting is the reduce level from -5dBm output level.

(Example) If the reduce level is -5dBm, set by binary input "0""1""0""1" (5), then output level is -10dBm (-5dBm -5dBm)

If the reduce level is -8dBm, set by binary input "1""0""0""0" (8), then output level is -13dBm (-5dBm -8dBm)

SW-E2 No. 5 ~ No. 8 Reserved

Set to "0".

SW-F1 No. 1, No. 2 DTMF detect time

Used to set detect time of DTMF (Dual Tone Multi Frequency) used in remote reception (5 ✳ ✳).

The longer the detect time is, the less the error detection is caused by noises.

SW-F1 No. 3 Remote reception (5 ✳ ✳) detect

Used to set the function of remote reception (5 ✳ ✳). When set to "1", the remote reception function is disabled.

SW-F1 No. 4 Remote reception

(Corresponding to TEL made by GE) P.B.X.

"1": Compatible with TEL mode by GE

"0": Not compatible

- When sending (5 ✳ ✳) for remote reception with a GE manufactured telephone remote reception may not take place because of special specifications in their DTMF.
  To overcome this, a soft SW is provided to change the modem setting to allow for remote reception.
- If this soft SW is set to "1", other telephone sets may be adversely affected.

SW-F1 No. 5 ~ No. 8 Remote operation code figures by external TEL

Remote operation codes can be changes from 0 through 9. If set to greater than 9, it defaults to 9. The "5 ✳ ✳ " is not changed.

Ex-7 ✳ ✳ (Default: 5 ✳ ✳)

SW-F2 No. 1 CNG signal detection in standby condition

When setting to "1", the CNG signal detection function during standby stops.

SW-F2 No. 2, No. 3 Number of CNG signal detection (AM)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 4, No. 5 Number of CNG signal detection (STAND-BY mode)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 6 ~ No. 8 Reserved

Set to "0".

SW-G1 No. 1 ~ No. 4 Quiet detect time (Used in answering machine mode)

When an answering machine is connected, if a no sound state is detected for a certain period of time, the machine judges it as a transmission from a facsimile machine and automatically switches to the FAX mode.

SW-G1 No. 5 ~ No. 8 Quiet detect start timing (Used in answering machine mode)

Inserts a pause before commencing quiet detection.

SW-G2 No. 1 ~ No. 8 Off hook hold

Used to set Off hook hold time by binary input.
(0 to 255 seconds)

SW-G3 No. 1, No. 2 OGM detect timer

AM mode is working after detecting the OGM of answering machine in IRISH setting.
This is used to change the time for detection of the OGM or cancel to detect the OGM.

SW-G3 No. 3, No. 4 Reserved

Set to "0".

SW-G3 No. 5, No. 6 Section time of quiet detection.

The switch which sets the time from the start of detection function to the end of the function.

SW-G3 No. 7, No. 8 Reserved

Set to "0".

SW-H1 No. 1 Busy tone detection ON/OFF time (Lower limit).

The initial value of detection is set according to electric condition.
The set value is changed according to the local switch board. (Erroneous detection of sound is reduced.)
Normally the upper limit is set to 750 msec, and the lower limit to 200 msec.
If erroneous detection is caused by sound, etc.. adjust the detection range.
The lower limit can be set in the range of 350 msec to 200 msec.

SW-H1 No. 2 Busy tone detection ON/OFF time (Upper limit).

Similarly to SW-H1 No. 1, the set value can be varied.
The upper limit can be set in the range of 650 msec to 900 msec.

SW-H1 No. 1	SW-H1 No. 2	Detection range
0	0	200 msec - 900 msec
0	1	200 msec - 650 msec
1	0	350 msec - 750 msec
1	1	350 msec - 650 msec

SW-H1 No. 3 Reserved

Set to "0".

SW-H1 No. 4 Busy tone continuous sound detect time

Set detecting time busy tone for 5 seconds or 10 seconds.

SW-H1 No. 5 Reserved

Set to "0".

SW-H1 No. 6 Busy tone detect continuation sound detect

Used to select detection of the continuous sound of certain frequency.

SW-H1 No. 7 Reserved

Set to "0".

SW-H1 No. 8 Busy tone detect intermittent sound detect

Used to select detection of the intermittent sound of certain frequency.

SW-H2 No. 1, No. 2 Number of Busy tone pulses

Used to set detection of Busy tone intermittent sounds.

SW-H2 No. 3 Fax switching when A.M. full or PC failure

If the answering machine's memory (tape) is full and there is no response, the machine automatically switches to Fax reception.

SW-H2 No. 4 ~ No. 8 Reserved

Set to "0".

SW-I1 No. 1 ~ No. 7 Reserved

Set to "0".

SW-I1 No. 8 CPC signal detection

Used to turn ON/OFF the CPC (Calling Party Control) signal detection in the TEL/FAX automatic switching mode.

SW-I2 No. 1 ~ No. 5 Reserved

Set to "0".

SW-I2 No. 6, No. 7 CPC detection time

Used to set the CPC (Calling Party Control) signal detect time.

SW-I2 No. 8 Reserved

Set to "0".

SW-I3 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I4 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I5 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I6 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I7 No. 1 ~ No. 8 Reserved

Set to "0".

SW-J1 No. 1, No. 2 Reserved

Set to "0".

SW-J1 No. 3 Sender's phone number registration

Used to make a choice of whether the registered sender's phone number can be changed or not. If the switch is set to "1", new registration of the sender's phone number is disabled to prevent accidental wrong input.

SW-J1 No. 4 Country setting

Used to select UK or IRELAND use.

SW-J1 No. 5 Reserved

Set to "0".

SW-J1 No. 6 Summer time setting

Used to set YES/NO of automatic clock adjustment for European Summer time.

SW-J1 No. 7, No. 8 Ringer volume

Used to adjust ringing volume.

SW-J2 No. 1, No. 2 Reserved

Set to "0".

SW-J2 No. 3 Polling function

If this switch is set to 1, the last of Rapid key works as polling key.

SW-J2 No. 4, No. 5 Reserved

Set to "0".

SW-J2 No. 6 ~ No. 8 Speaker Volume (For H, A)

Used to adjust sound volume from a speaker.

SW-J3 No. 1, No. 2 Reserved

Set to "0".

SW-J3 No. 3, No. 4 Transaction report (Communication result printout)

It is possible to obtain transaction results after each communication.

Normally, the switch is set (No. 1: 0, No. 2: 0) so that the transaction report is produced only when a communication error is encountered.

If No. 1 was set to "1" and No. 2 to "0", the transaction report will be produced every time a communication is done, even if the communication was successful.

Setting No. 1 to 1 and No. 2 to 1 will disable this function. No transaction report printed.

SW-J3 No. 5 ~ No. 8 Reserved

Set to "0".

SW-K1 No. 1 Entering DIAG mode by pressing SPEED key

A bit which is used in the production process only. When the SPEED key pressed, the switch is changed from the stand-by state to the DIAG mode.

SW-K1 No. 2 ~ No. 8 Reserved

Set to "0".

SW-L1 No. 1 ~ No. 8 Reserved

Set to "0".

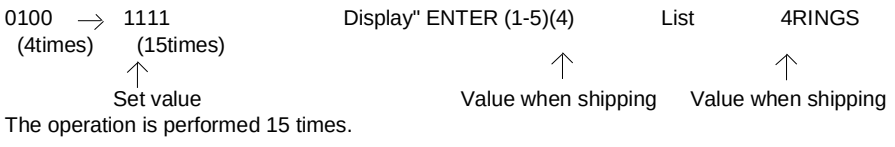
SW-L2 No. 1 ~ No. 8 Reserved

Set to "0".

Caution

When the value which the user is not allowed to set using the soft SW is set, output to the indication or list is not performed. However, the actual operation is performed at the set value.

(Example) Number of rings for auto receive SWD1 No. 1-No. 4



The operation is performed 15 times.

[3] Troubleshooting

Refer to the following actions to troubleshoot any of problems mentioned in 1-4.

[1] A communication error occurs.

[2] Image distortion produced.

[3] Unable to do overseas communication.

[4] Communication speed slow due to FALLBACK.

- Increase the transmission level SOFT SWITCH A2-5, 6, 7, 8.
  May be used in case [1] [2] [3].
- Decrease the transmission level SOFT SWITCH A2-5, 6, 7, 8.
  May be used in case [3].
- Apply line equalization SOFT SWITCH A1-1.
  May be used in case [1] [2] [3] [4].
- Slow down the transmission speed SOFT SWITCH A1-4, 5.
  May be used in case [2] [3].
- Replace the TEL/LIU PWB.
  May be used in all cases.
- Replace the control PWB.
  May be used in all cases.

* If transmission problems still exist on the machine, use the following format and check the related matters.

TO: ATT: Ref.No. :

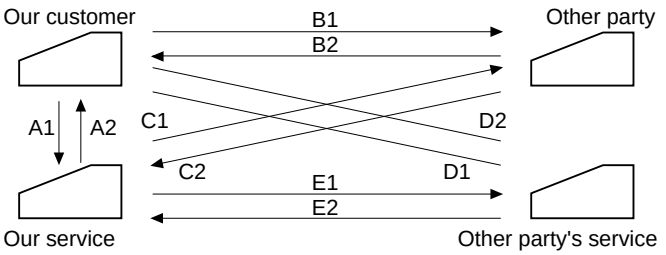
CC: ATT: Date :

FM: Dept :

Sign :

***** Facsimile communication problem *****			Ref.No.:
From: Mr.	Fax Tel No.:		Date:
Our customer	Name		Tel No.
	Address		Fax No.
	Contact person		Model name
Other party	Name		Tel No.
	Address		Fax No.
	Contact person		Model name
Problem mode	Line: Domestic / international	Model: G3	Phase: A, B, C, D.
	Reception / Transmission	Automatic reception / Manual reception	
		Automatic dialing / Manual dialing / Others	
Frequency:		%	ROM version:

Confirmation item



Please mark problem with an X.
No problem is: 0.

A1	A2	B1	B2	C1	C2	D1	D2	E1	E2

Transmission level setting is ( ) dB at our customer

Transmission level ( ) dBm
Reception level ( ) dBm
By level meter at B1 and B2

Comment	
Countermeasure	

**** Please attach the G3 data and activity report on problem. ****

* Please complete this report before calling the "TAC" hotline if problem still occurs.

[4] Error code table

G3 Transmission

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSF, DIS	Cannot recognize DCS signal Cannot recognize NSS signal
2	CFR	Disconnects line during reception
3	FTT	Disconnects line by fallback
4	MCF	Disconnects line during reception of multi-page Cannot recognize NSS, DCS signal in the case of mode change
5	PIP or PIN	No response in receiver side to picture signal after no response in transmitter side to receive TALK mode request
6	RTN or RTP	Cannot recognize NSS, DCS signal after transmitting RTN or RTP signal.
7	No signal or DCN	No response in receiver side or DCN signal received*

G3 Reception

Code	Final received signal	Error Condition (Transmitter side)
0	Imcomplete signal frame	Cannot recognize bit stream after flag
1	NSS, DCS	Cannot recognize CFR or FTT signal Disconnects line during transmission
2	NSC, DTC	Cannot recognize NSS signal
3	EOP	Cannot recognize MCF, PIP, PIN, RTN, RTP signal
4	EOM	Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of mode change
5	MPS	Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of multi-page
6	PR1-Q	Cannot recognize PIP, PIN signal in the case of TALK request
7	No signal or DCN	No response in transmitter (cannot recognize DIS signal) or DCN signal received*

CHAPTER 3. MECHANISM BLOCKS

[1] General description

1. Document feed block and diagram

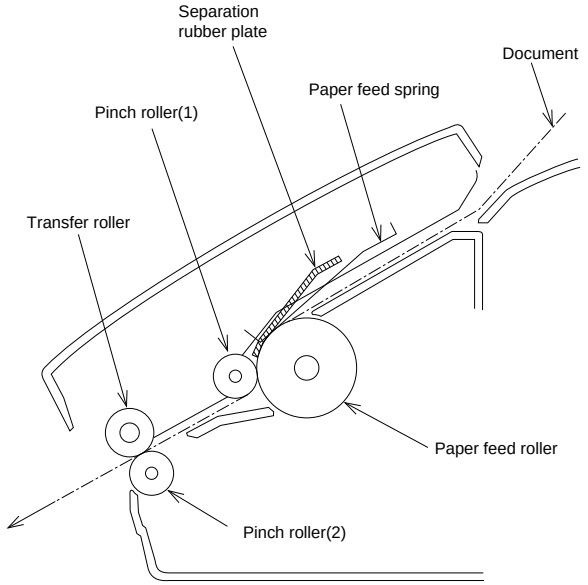


Fig. 1

2. Document feed operation

1) The document placed in the hopper actuates the document sensor. After one second, the pulse motor starts to drive the paper feed roller. The document is automatically taken up into the machine, and stopped at the document sensor.
2) When a specified number of pulses are received from the document sensor after the document lead edge is sensed, scanning is started.
3) When a specified number of pulses are received from the document sensor after the document rear edge is sensed, scanning is terminated and the document is fed through.
4) If the document sensor is active (i.e., another document is in the hopper), when the preceding document scanning is completed and it is fed out, the next document is taken up into the machine. If the document sensor is not active (i.e., there is no document in the hopper), when the document is fed out, the operation is terminated.

3. Hopper mechanism

3-1. General view

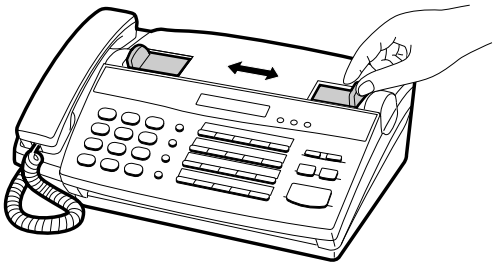


Fig. 2

The hopper is used to align documents with the document guides adjusted to the paper width.

NOTE: Adjust the document guides before and after inserting the document.

3-2. Automatic document feed

1) Use of the paper feed roller and separation rubber plate ensures error-free transport and separation of documents. The plate spring presses the document to the paper feed roller to assure smooth feeding of the document.
2) Document separation method: Separation rubber plate

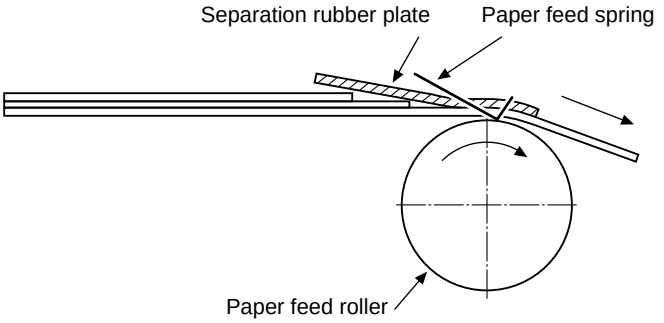


Fig. 3

3-3. Documents applicable for automatic feed

	4x6 series (788mm x 1091mm x 1000mm sheets)		Square meter series	
	Minimum	Maximum	Minimum	Maximum
Feeder capacity	20 sheets, max.			
Paper weight	45kg	64.3kg	52g/m^2	74.3g/m^2
Paper thickness (ref.)	0.06mm	0.09mm	0.06mm	0.09mm
Paper size	B6 (128mm x 182mm) ~ A4 (210mm x 297mm), Letter (216mm x 279mm)			
Feeder capacity	10 sheets, max.			
Paper weight	45kg	90kg	52g/m^2	104g/m^2
Paper thickness (ref.)	0.06mm	0.12mm	0.06mm	0.12mm
Paper size	B6 (128mm x 182mm) ~ A4 (210mm x 297mm), Letter (216mm x 279mm)			
Paper quality	High quality paper or equivalent			

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually. The document feed quantity may be changed according to the document thickness.

Documents corresponding to a paper weight heavier than 64.3kg (74.3g/m^2) and lighter than 135kg (157g/m^2) are acceptable for manual feed.

Documents heavier than 135kg in terms of the paper weight must be duplicated on a copier to make it operative in the facsimile.

3-4. Loading the documents

1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, wet ink, clips, staples and pins.
2) Place documents face down in the hopper.
   i) Adjust the document guides to the document size.
   ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

NOTES: 1) Curled edge of documents, if any, must be straighten out.
2) Do not load the documents of different sizes and/or thicknesses together.

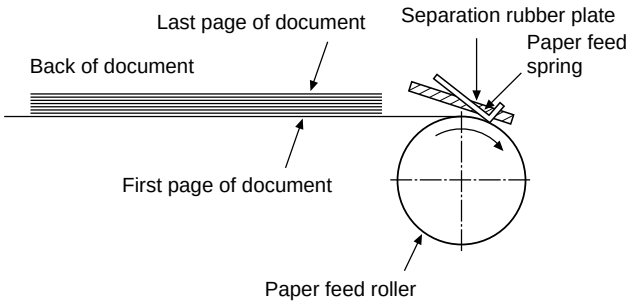


Fig. 4

3-5. Documents requiring use of document carrier

1) Documents smaller than B6 (128mm x 182mm).
2) Documents thinner than the thickness of 0.06mm.
3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).
4) Documents containing tears.
5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)
6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).
7) Transparent documents.
8) Folded or glued documents.

Document in document carrier should be inserted manually into the feeder.

4. Document release

4-1. Cross section view

(RIGHT SIDE)

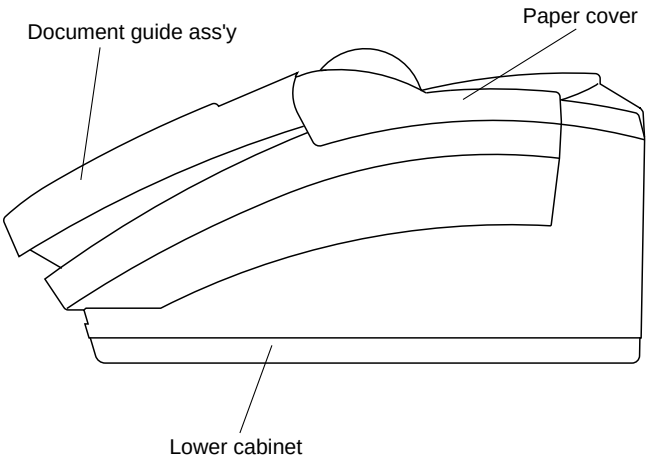


Fig. 5

4-2. General

When the release lever is pulled by hand in the direction of arrow A, the latch is released and the upper document guide moves on its axis in the direction of the arrow. The feed rollers, the separation rubber plate, and the pinch rollers become free to make it possible to remove the document.

5. Optical system

(1) General view

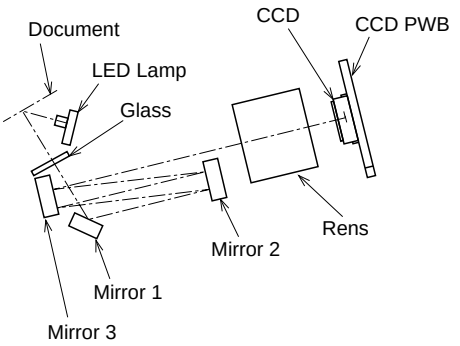


Fig. 6

(2) Composition

The optical system is composed of the document feed mechanism, the lamp, the reflecting mirrors, the focusing lens, the CCD sensor, and the read process circuit.

5-1. LED Lamp

The LED lamp is used to expose the document.

5-2. Lens

The lens is used to focus the light reflected from the document on the CCD elements.

5-3. CCD

The CCD (charge coupled device) image sensor consists of a photodiode array which converts the intensity of light reflected from the document surface into series of analog voltages which are then stored in an analog shift register. The series of analog voltages are then converted into a digital equivalent by a black/white binary logic circuit.

(Example) Scan signal output waveform

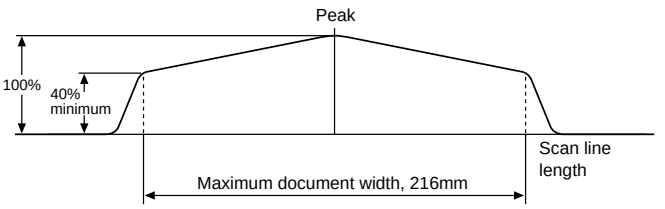


Fig. 7

1) The minimum output from the CCD at the maximum scan width of document (216mm) must be more than 40% of the peak value.
2) The peak output must be about 200mV under room temperature to avoid CCD saturation.

6. Recording block

(1) General view

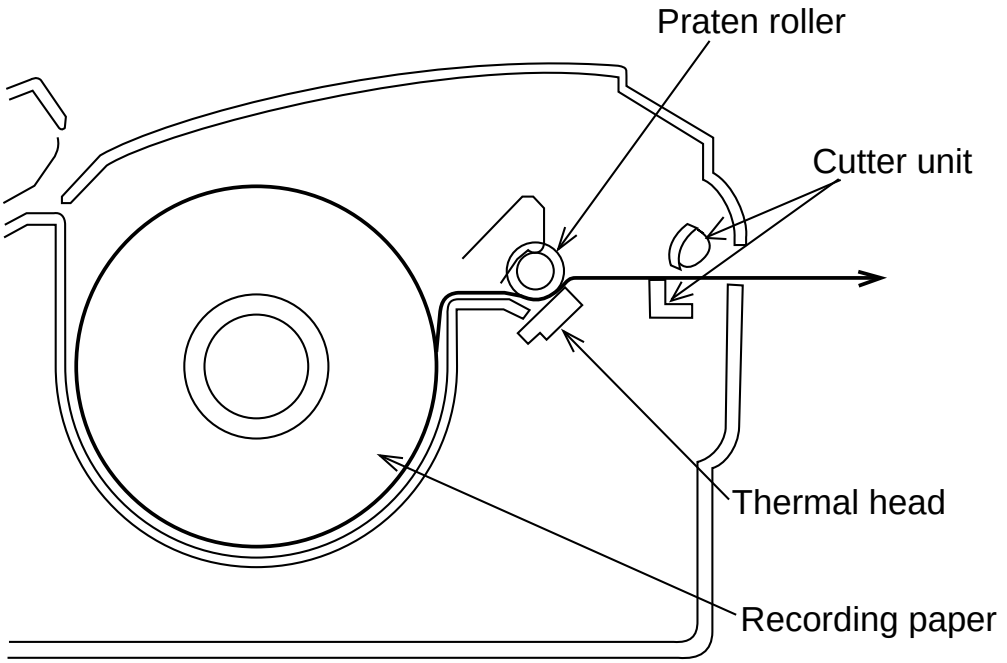


Fig. 8

6-1. Driving

Via the pulse motor gear shaft, the reduction gear, and the recording paper feed gear, rotation of the pulse motor is conveyed to the recording paper feed roller to feed the recording paper.

6-2. Recording

Use of a thermal head permits easier maintenance and low operating costs.

1) Thermal head

The thermal head consists of 1728-dot heat elements arranged in a single row and has the resolution of 8 dots/mm. The maximum recording speed is 10ms/line. The thermal head also incorporates a 1728-dot shift register latch and an output control driver circuit. Low power consumption is achieved by dividing the head into nine segments.

2) Structure of the recording mechanism

Recording is accomplished by pressing the thermal head on the recording paper against the platen roller.

The main scan (horizontal) is electronically achieved, while the sub-scan (vertical) is achieved by moving the recording paper by the recording platen roller.

Usually, the cause for uneven print tone is caused by misalignment of the thermal head or uneven contact with the roller.

It can be checked in the following manner.

1) Check if the thermal head power and signal cables are properly routed.
2) Check that the thermal head pivot moves smoothly up and down.
3) Check that the thermal head support bracket is secured without any play.
4) Check to see that the recording platen roller has proper concentricity, in the case of a print tone variation evenly repeated down the page.
5) Replace the thermal head with a new one and check to see if the same trouble occurs.

Jamming releasing method

The method to release the cutter-provided mode) is explained.

① During ordinary operation, cutting becomes impossible because of plural sheet feed or similar.
② After the error sound, "CUTTER RESETTING" is displayed.
③ Try automatic cutting.
④ "PAPER JAM" is displayed whether cutting is possible or not.

Cutting is possible.

⑤ Open the cover of the recording paper, and remove the jammed, chipped or similar paper.
⑥ Reset the recording paper, and close the cover of the recording paper.
⑦ It stands by.

Cutting is impossible.

⑤ Open the cover of the recording paper, and remove the jammed, chipped or similar paper.
⑥ Press the start or stop key.
⑦ Reset the machine (Same as in Item ③.)
⑧ Remove the chipped paper.
⑨ Reset the recording paper, and close the cover of the recording paper.
⑩ It stands by.

Cutting is impossible even after jamming is released.

⑪ Insert the wooden rod or similar (example: pencil) through the paper discharge port, move the moving blade upward and remove the jammed paper.
Note: Don't insert any metallic rod.
(See the appended drawing.)

(Paper is jammed)

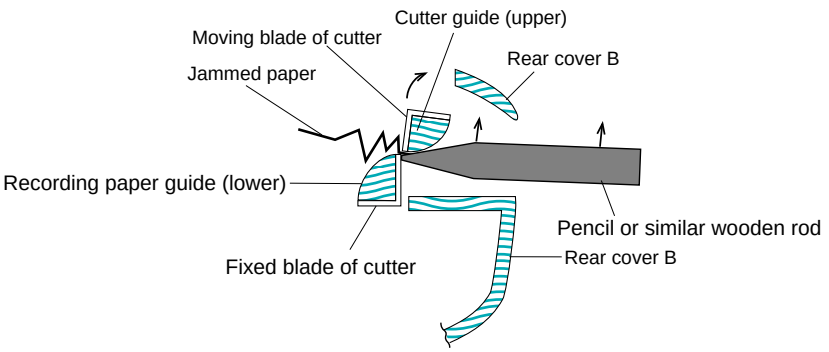


Fig. 9

(Jamming is released.)

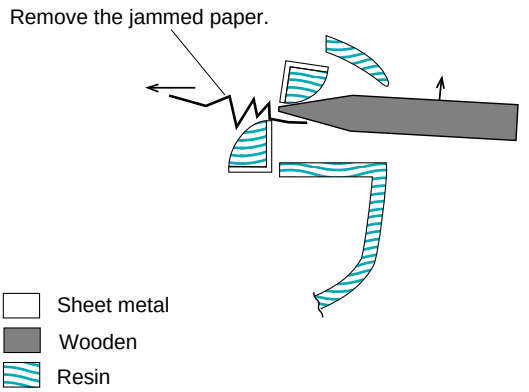


Fig. 10

How to remove document Guide lower

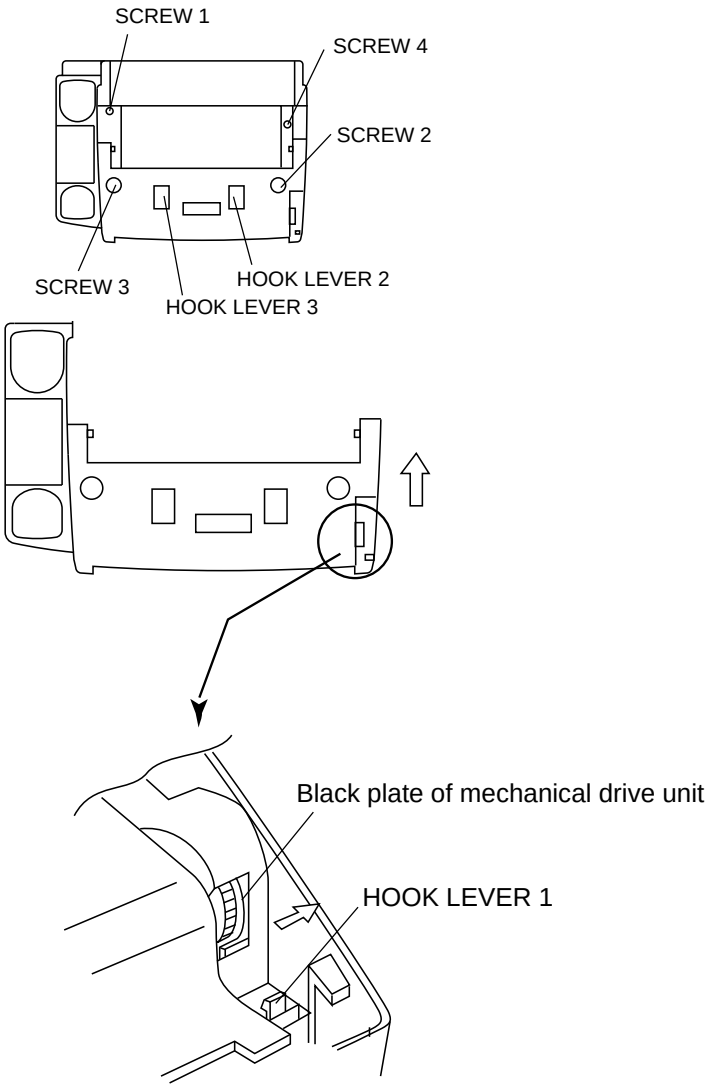


Fig. 11

(1) You remove four screws.
(2) You remove hook lever 1, You use a screwdriver and push black plate of mechanical drive unit with direction of arrow.
And you lift document guide lower.
(3) You remove hook lever 2 and hook lever 3, and you remove document guide lower.

[2] Disassembly and assembly procedures

- This chapter mainly describes the disassembly procedures. For the assembly procedures, reverse the disassembly procedures.
- Easy and simple disassembly/assembly procedures of some parts and units are omitted. For disassembly and assembly of such parts and units, refer to the Parts List.
- The numbers in the illustration, the parts list and the flowchart in a same section are common to each other.
- To assure reliability of the product, the disassembly and the assembly procedures should be performed carefully and deliberately.

1 Recording paper cover unit

a. Remove the recording paper cover unit, the mechanism unit according to the flowchart.

Parts list (Fig. 1)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	16	Hopper guide, right	1
2	Screw (M3×10)	2	17	Recording paper cover	1
3	Rear cover	1	18	Screw (M3×10)	1
4	Recording paper cover unit	1	19	Recording paper guide upper	1
5	Screw (M3×10)	2	20	Screw (M3×10)	1
6	Platen gear	1	21	Recording paper guide lower	1
7	Platen bearing	2			
8	Platen roller	1	22	Cutter guide	1
9	Anti curl shaft	1	23	Cutter unit	1
10	Anti curl spring	2	24	Screw (M3×10)	1
11	Platen plate	1	25	Cutter gear ass'y	1
12	Screw (M3×6)	1	26	Recording paper sensor	1
13	Pinion gear	1	27	Sensor cable	1
14	Hopper spring	1	28	Paper guide sheet	4
15	Hopper guide, left	1			

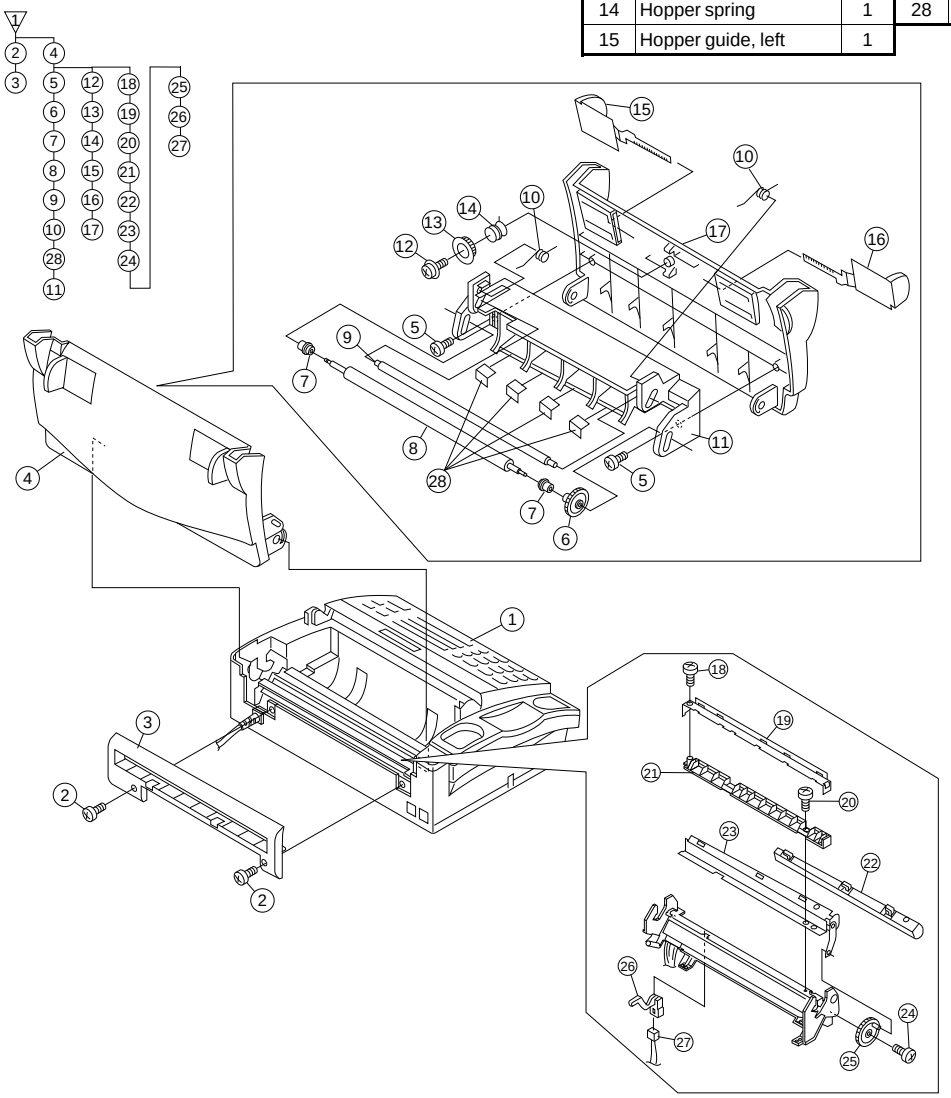


Fig. 1

2 Document guide lower ass'y

a. Remove the recording paper cover unit, the mechanism unit according to procedure 1-a.

b. Remove the document guide upper ass'y and document guide lower ass'y to the flowchart.

Parts list (Fig. 2)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Under cabinet unit	1	8	Document guide lower ass'y	1
2	Document guide upper ass'y	1	9	Shaft	1
3	Screw (M3×10)	4	10	Paper feed roller gear ass'y	1
4	Hook switch lever	1			
5	Screw (M3×10)	1	11	Paper feed roller	1
6	Panel unit stopper	1	12	Cussion spacer	2
7	Connector	1	13	Document guide lower	1

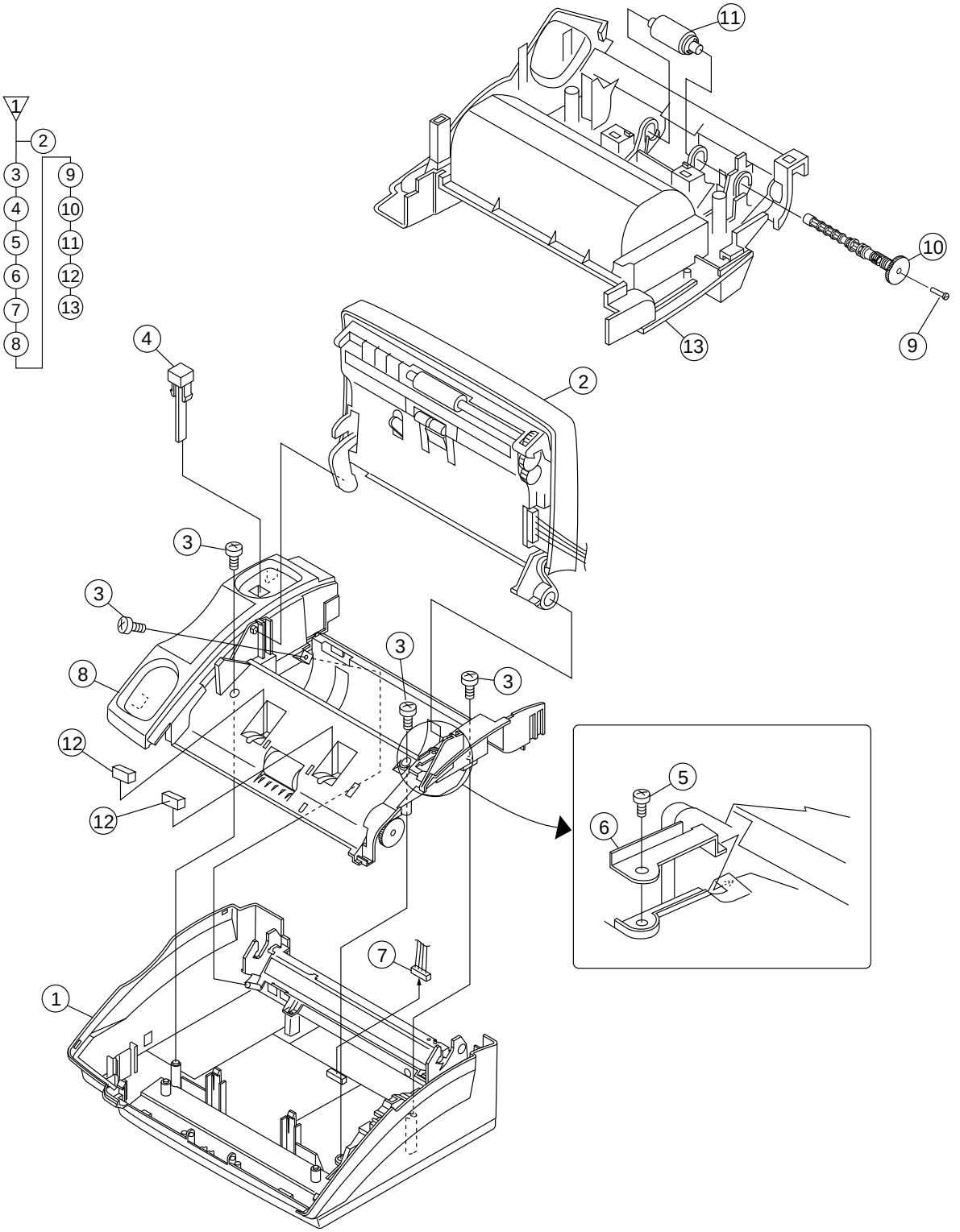


Fig. 2

3 Document guide upper ass'y

a. Remove the recording paper cover unit, the mechanism unit according to procedure 1-a.

b. Remove the document guide upper ass'y and document guide lower ass'y from the mechanism unit according to procedure 2-b.

c. Remove the document guide upper ass'y to the flowchart.

Parts list (Fig. 3)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Upper cabinet unit	1	12	Transfer roller 2	1
2	Panel cable	1	13	Separate spring	1
3	Document guide upper unit	1	14	Separator plate	1
			15	Rubber separator	1
4	Screw (M3×10)	4	16	Feed spring	1
5	Rear sheet	1	17	Document sensor lever	1
6	Panel lock lever spring	1	18	Sensor lever spring	1
7	Panel lock lever	1	19	Pinch roller shaft	1
8	Idler gear	1	20	Pinch roller	2
9	Idler gear	1	21	Ihsulation sheet	1
10	Transfer gear	1	22	Head cover sheet	2
11	Transfer bearing 2	1	23	Document guide upper	1

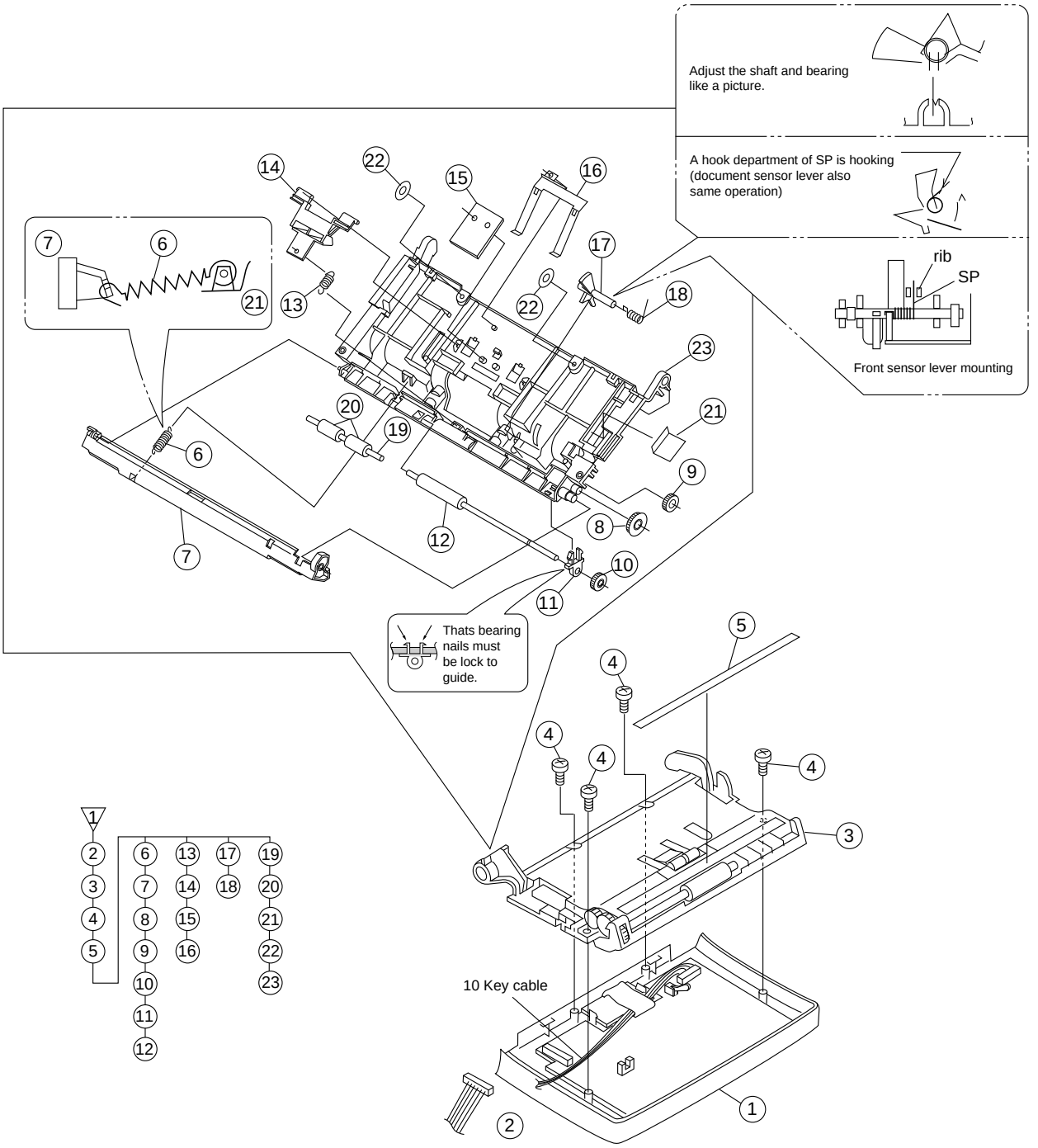

Adjust the shaft and bearing like a picture.
A hook department of SP is hooking (document sensor lever also same operation)
rib
SP
Front sensor lever mounting
Thats bearing nails must be lock to guide.
10 Key cable

Fig. 3

4 Upper cabinet ass'y

a. Remove the recording paper cover unit, the mechanism unit according to procedure 1-a.

b. Remove the document guide upper ass'y and document guide lower ass'y from the mechanism unit according to procedure 2-b.

c. Remove the document guide upper ass'y from the upper cabinet ass'y according to procedure 3-c.

d. Remove the upper cabinet ass'y to the flowchart.

Parts list (Fig. 4)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (M2×6)	6	7	Start key	1
2	Operation panel PWB	1	8	Stop key	1
3	Key sheet	1	9	Volume key	1
4	Rubber sheet	3	10	Mode key	1
5	12 key	1	11	Upper cabinet	1
6	Direct key	1			

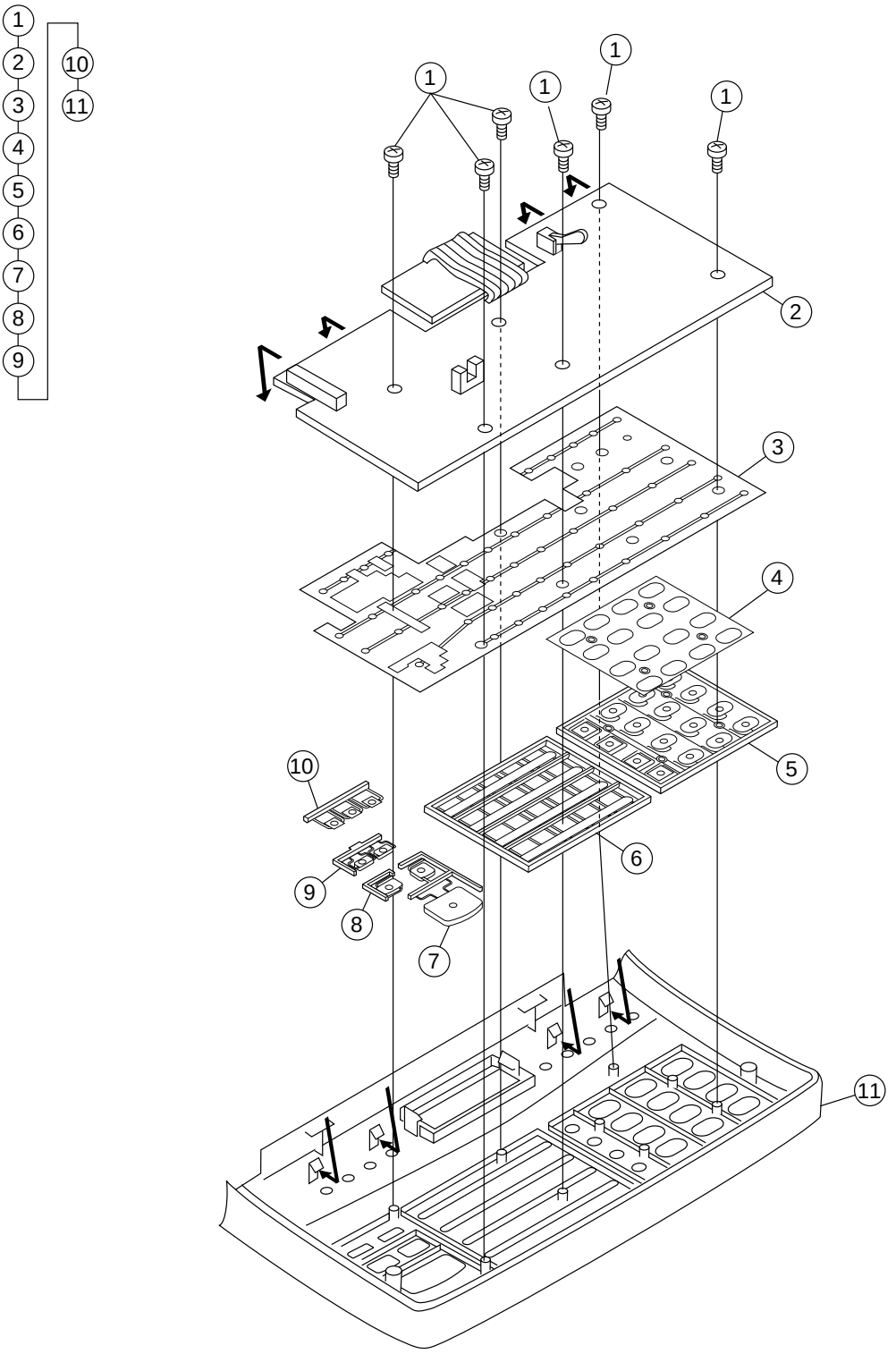


Fig. 4

5 Head frame unit

a. Remove the recording paper cover unit, the mechanism unit according to procedure 1-a.

b. Remove the document guide upper ass'y and document guide lower ass'y from the mechanism unit according to procedure 2-b.

c. Remove the document guide upper ass'y from the upper cabinet ass'y according to procedure 3-c.

d. Remove the upper cabinet ass'y to the flowchart 4-d.

e. Remove the head frame unit from the mechanism unit according to procedure.

Parts list (Fig. 5)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Under cabinet unit	1	10	Thermal head unit	1
2	Screw (M3×10)	2	11	Head pressure spring	4
3	Screw (M3×12)	1	12	Head frame	1
4	Connector	1	13	Screw (M3×6)	2
5	Screw (M3×6)	1	14	Head earth cable	1
6	Screw (M4×6)	1	15	Head guide left	1
7	Head frame unit	1	16	Head guide right	1
8	Paper sensor lever	1	17	AC cord	1
9	Paper sensor lever spring	1	18	Thermal head	1

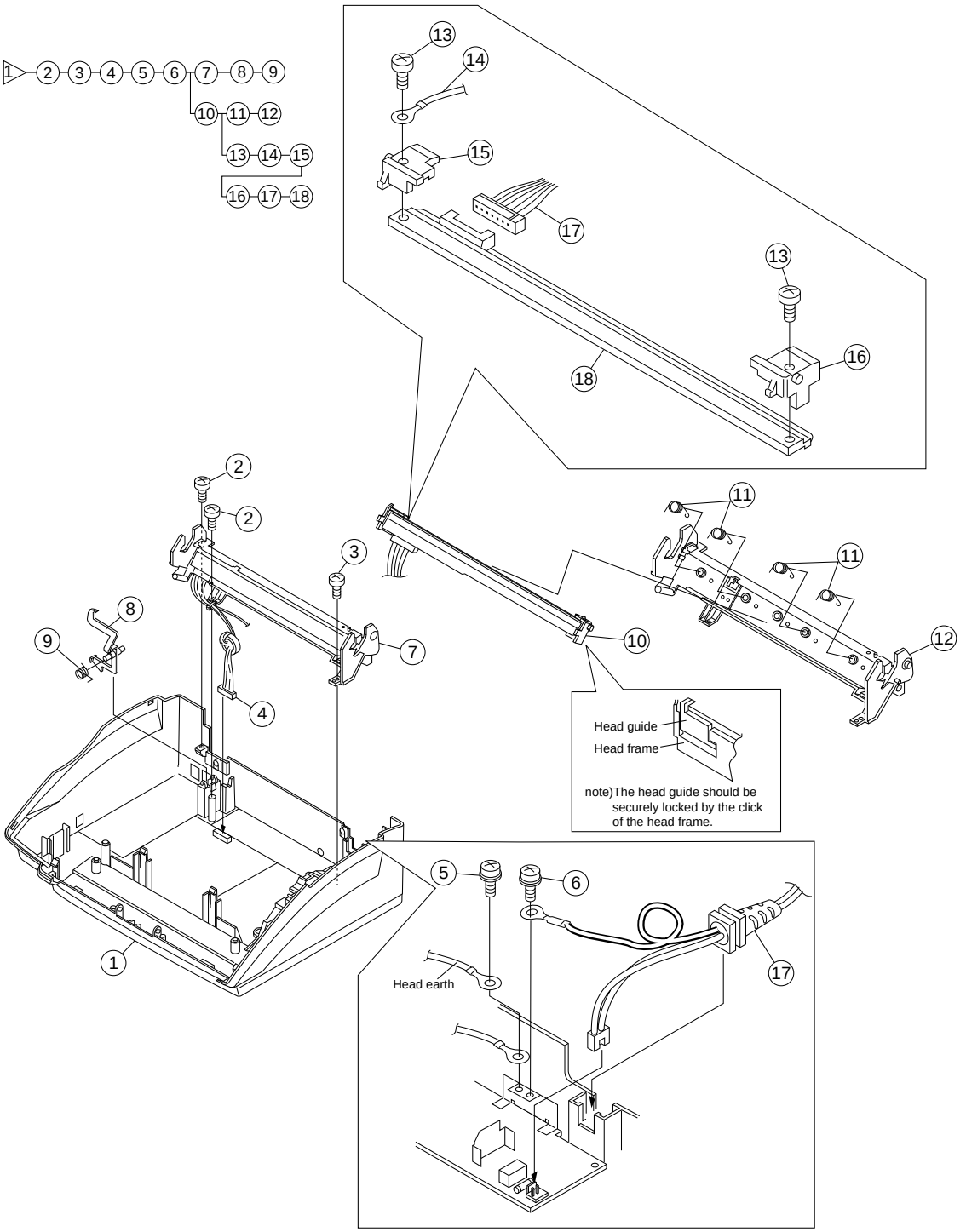


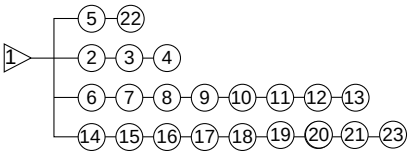
Fig. 5

6 Optical system unit and speaker

a. Remove the recording paper cover unit, the mechanism unit according to procedure 1-a.

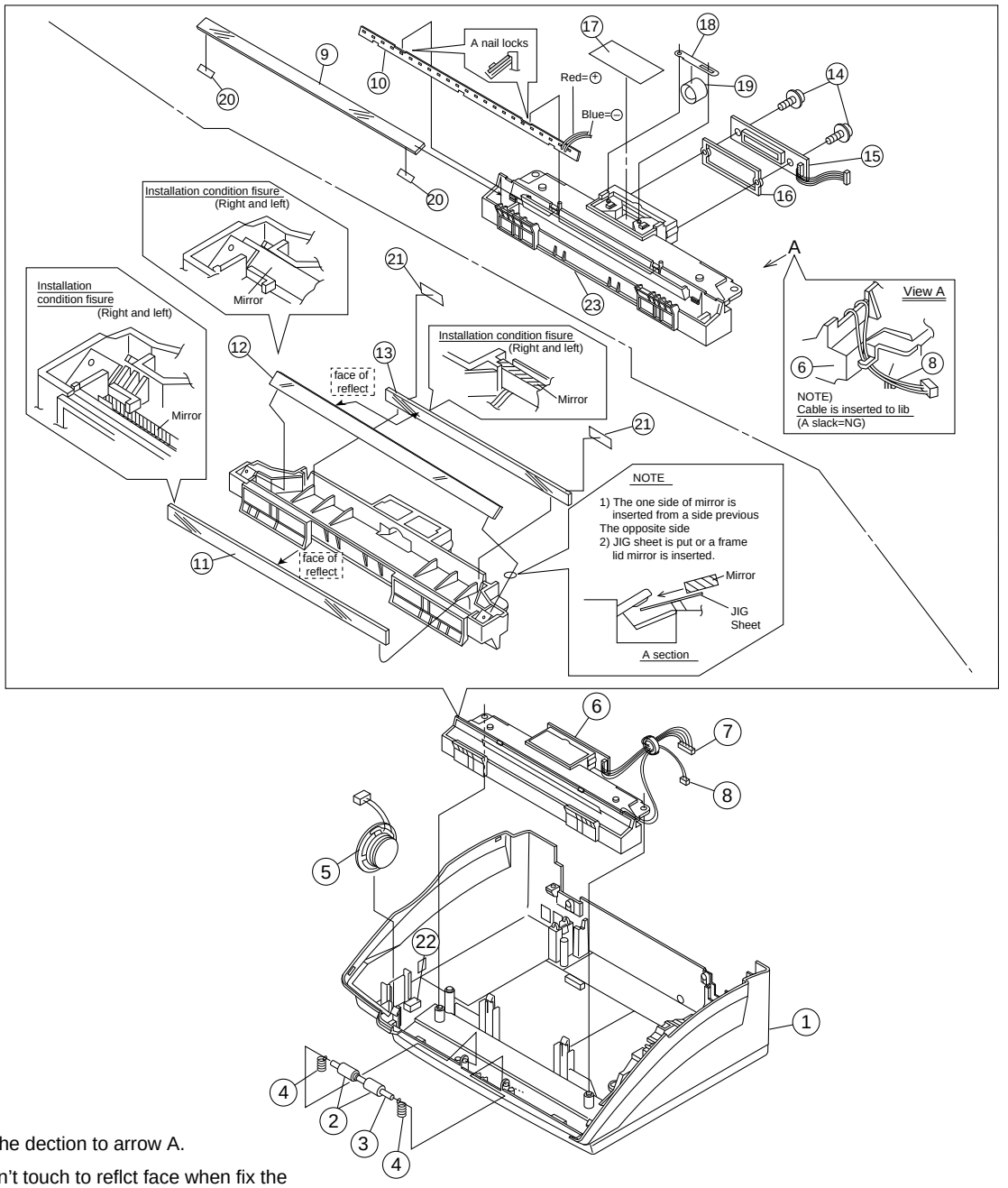
b. Remove the document guide upper ass'y and document guide lower ass'y from the mechanism unit according to procedure 2-b.

c. Remove the optical system unit and speaker to the flowchart.



Parts list (Fig. 6)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Under cabinet unit	1	13	Mirror 2	1
2	Pinch roller	2	14	Screw	2
3	Pinch roller shaft	1	15	CCD PWB unit	1
4	Pinch pressing spring	2	16	CCD spacer	1
5	Speaker unit	1	17	Shading sheet	1
6	Optical frame unit	1	18	Lens holding spring	1
7	Connector	1	19	Lens	1
8	Connector	1	20	Shield sheet 3	2
9	Reader glass	1	21	Mirror sheet 2	2
10	LED	1	22	Speaker cushion	1
11	Mirror 3	1	23	Optical frame	1
12	Mirror 1	1			



[Note]

1. Attention the dection to arrow A.
2. Please don't touch to reflct face when fix the mirror to optical frame.
3. Check the dust tingerprints and damage when have a thats case clean by dry cloth.

Fig. 6

7 Drive system unit

a. Remove the recording paper cover unit, the mechanism unit according to procedure 1-a.

b. Remove the document guide upper ass'y and document guide lower ass'y from the mechanism unit according to procedure 2-b.

c. Remove the head frame unit from the mechanism unit according to procedure 5-e.

d. Remove the optical system unit from the mechanism unit according to procedure 6-c.

e. Remove the drive system unit to the flowchart.

Parts list (Fig. 7)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Under cabinet unit	1	15	Planet gear spring	1
2	Screw (M3×12)	1	16	Idler gear	3
3	Connector	2	17	Reduction gear	2
4	Drive system unit	1	18	Planet gear spring	1
5	Screw (M3×6)	1	19	Planet gear lever	1
6	Motor	1	20	Planet gear plate	1
7	Heat sink	1	21	Planet gear	1
8	Reduction gear	1	22	Planet spring	1
9	Change lever spring	1	23	Reduction gear	2
10	Planet gear	1	24	Cam spring	1
11	Change lever	1	25	Idler gear	1
12	Cam A	1	26	Anti vibration sheet	1
13	Detection switch	1	27	Cam spacer	1
14	Planet gear lever	1	28	Drive system mounting frame	1

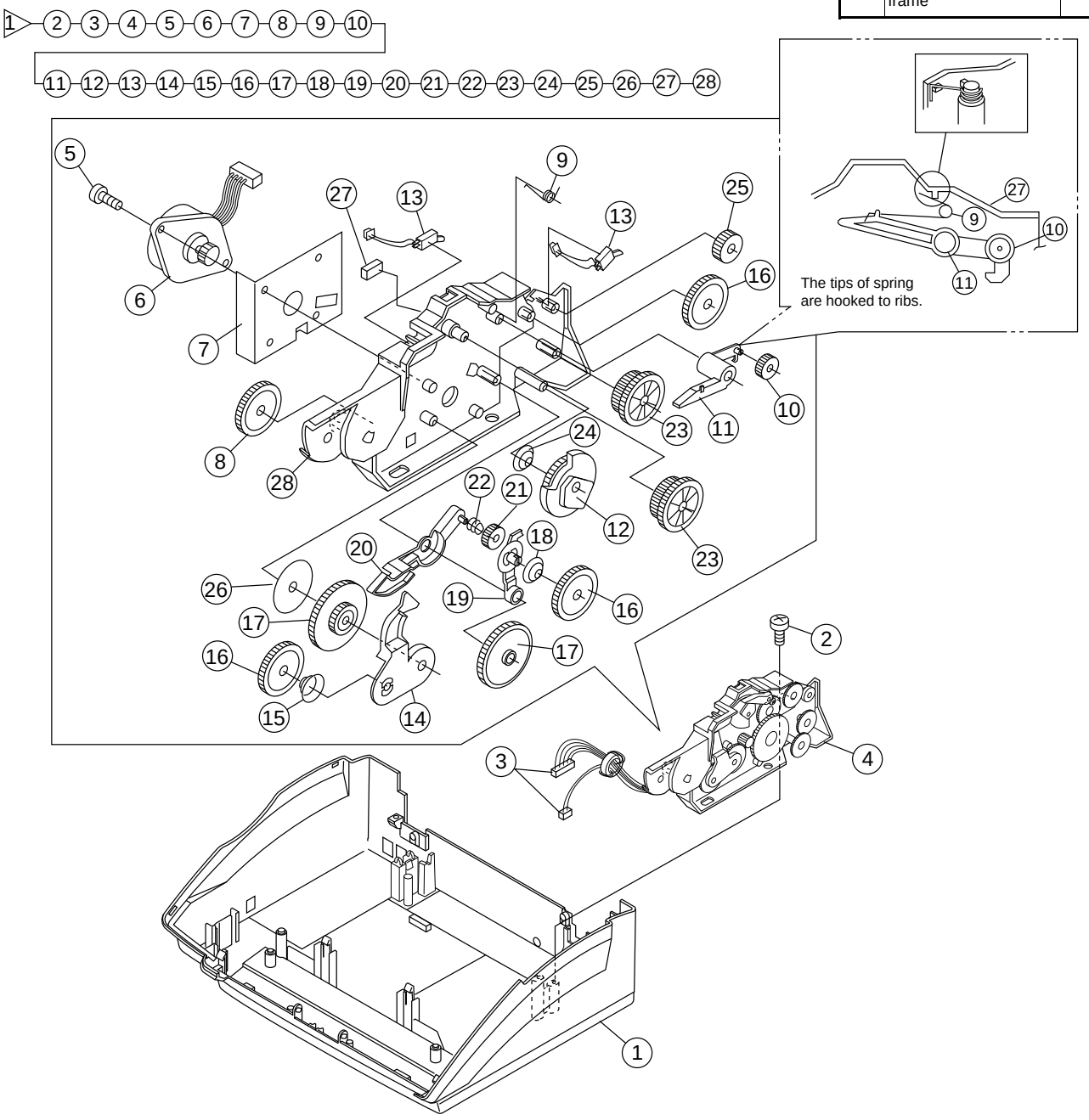


Fig. 7

8 PWB section

a. Remove the recording paper cover unit, the mechanism unit according to procedure 1-a.

b. Remove the document guide upper ass'y and document guide lower ass'y from the mechanism unit according to procedure 2-b.

c. Remove the head frame unit from the mechanism unit according to procedure 5-e.

d. Remove the optical system unit from the mechanism unit according to procedure 6-c.

e. Remove the drive system unit and speaker from the mechanism unit according to procedure 7-e.

f. Remove the PWB's to the flowchart.

Parts list (Fig. 8)

No.	Part name	Q'ty
1	Screw	8
2	TEL/LIU PWB	1
3	Power supply PWB	1
4	Control PWB	1
5	Lower cabinet	1
6	Rubber spacer	1
7	Spacer	1
8	Insulation sheet	1
9	Shileld sheet	1

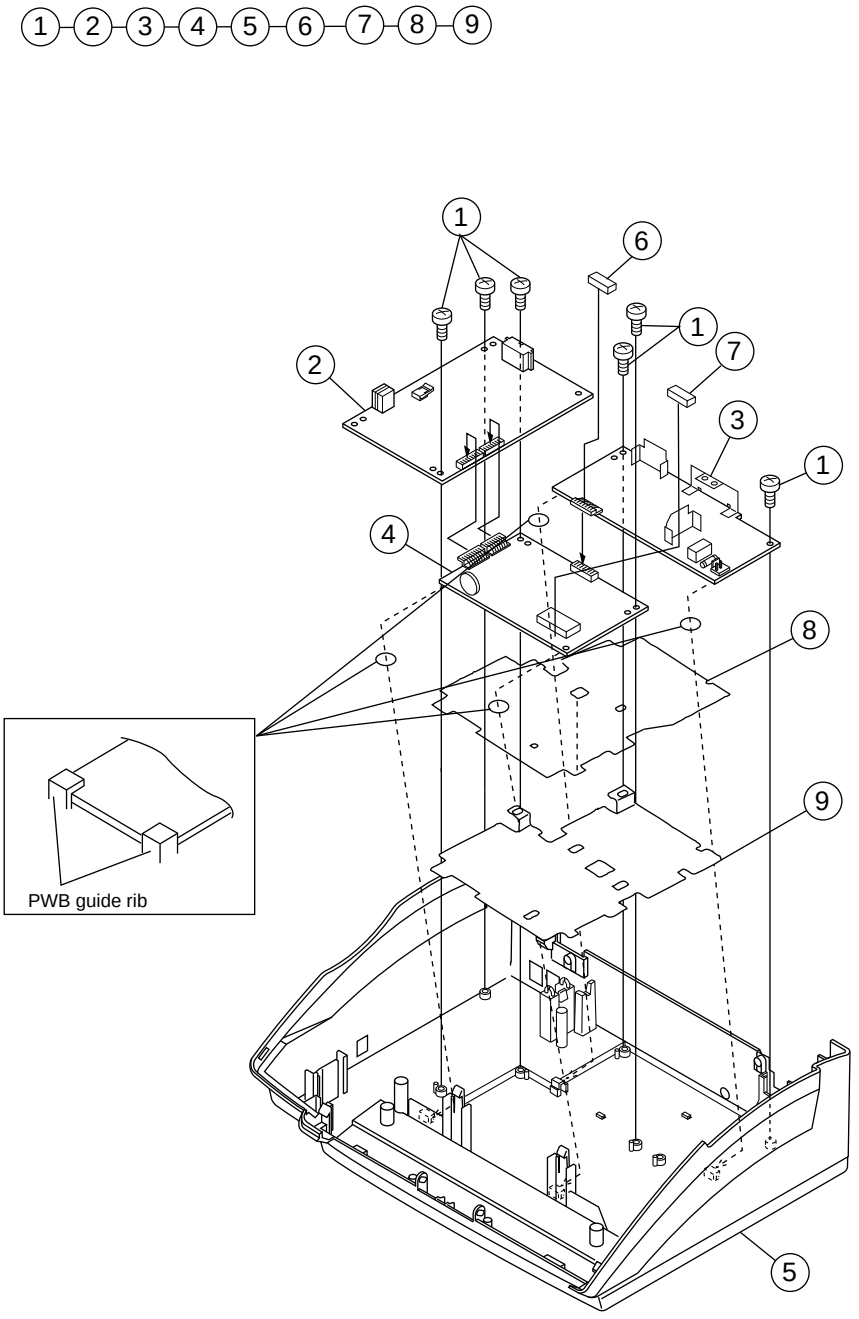


Fig. 8

9 Wire treatment

a. Perform wire treatment carefully and deliberately.

b. For wire treatment procedures which are not described in this section, refer to the section for that portion of the unit.

Parts list (Fig. 9)

No.	Part name	Q'ty
1	Band	2
2	Core	3

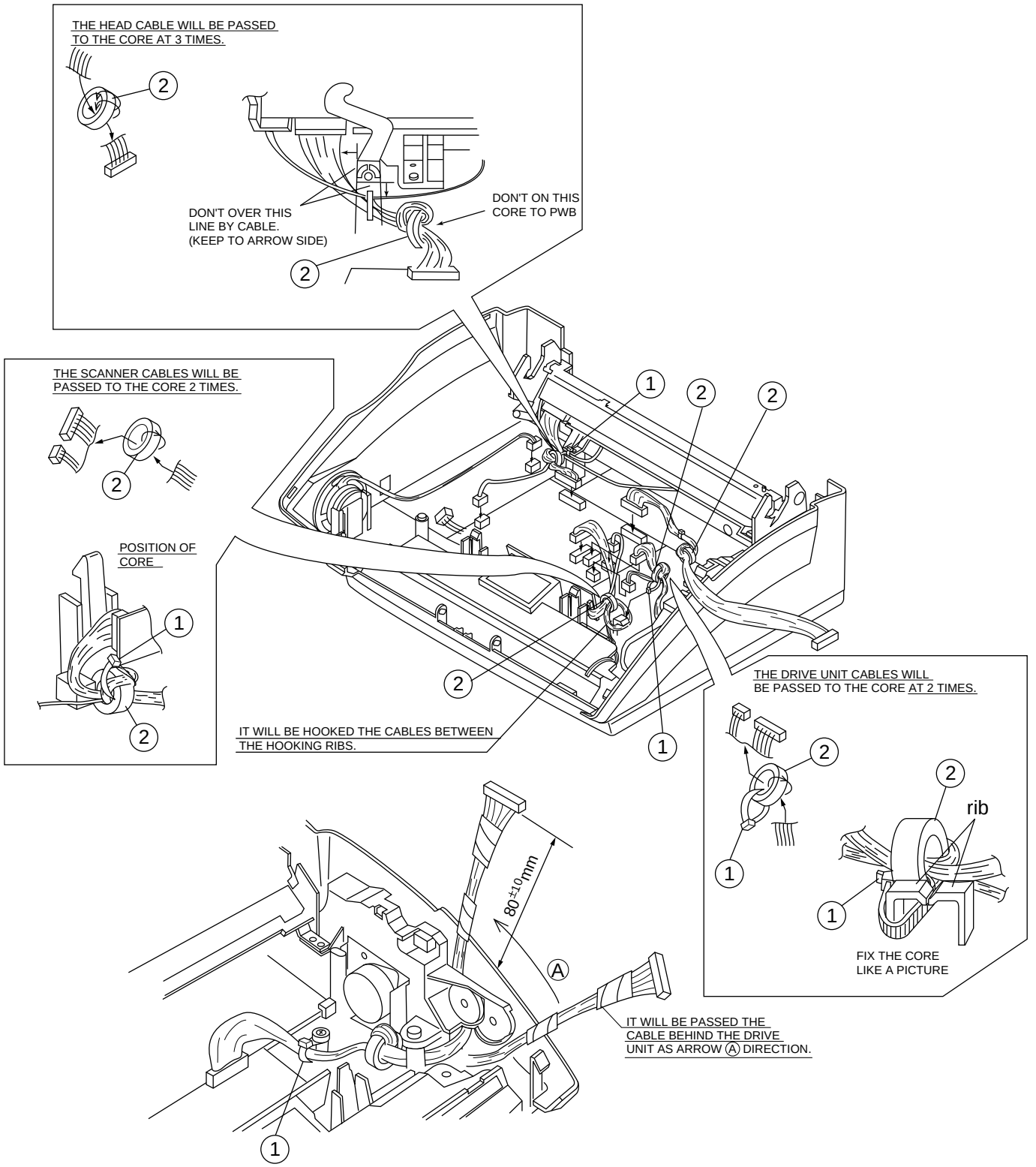
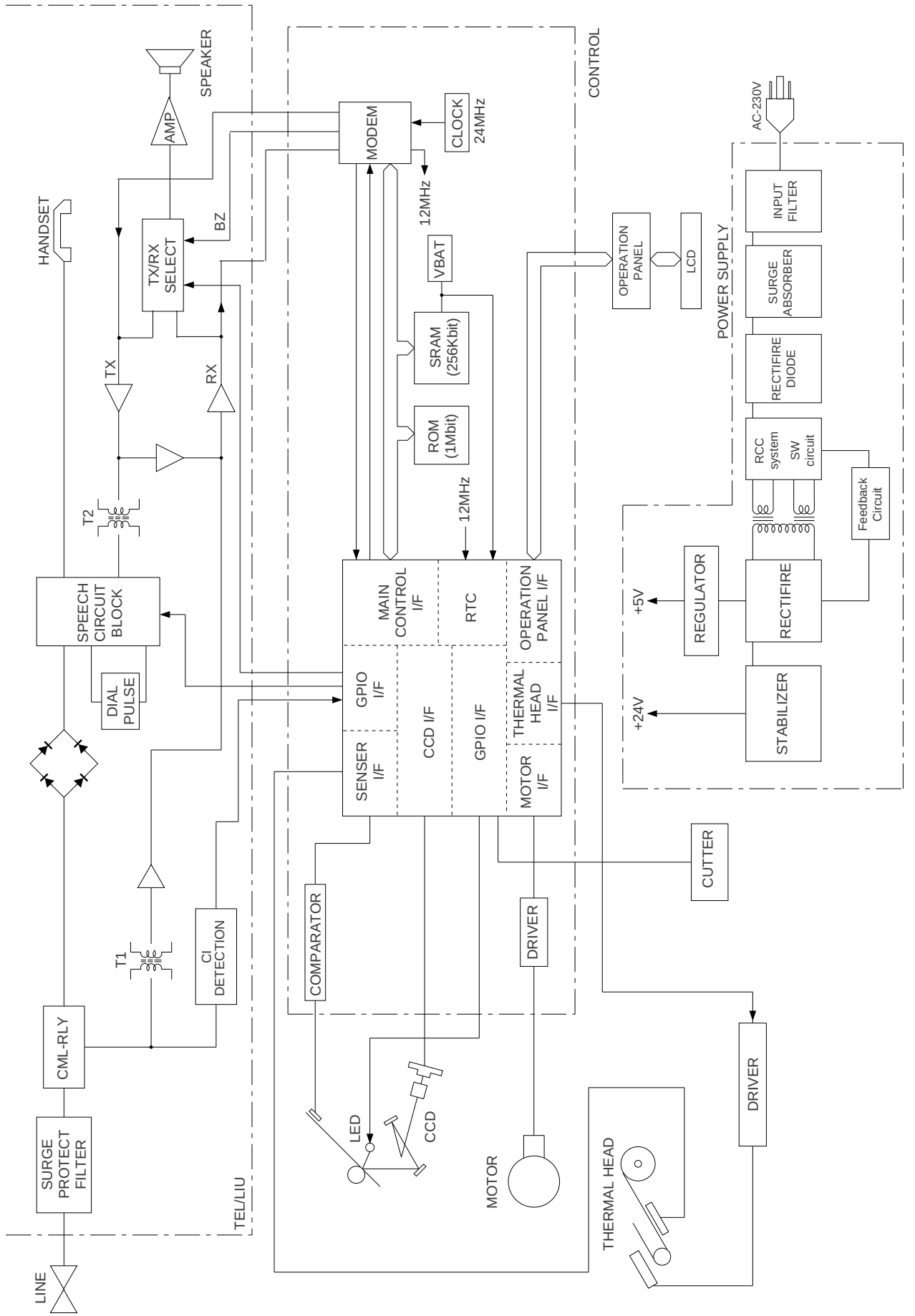

THE HEAD CABLE WILL BE PASSED TO THE CORE AT 3 TIMES.
DON'T OVER THIS LINE BY CABLE. (KEEP TO ARROW SIDE)
DON'T ON THIS CORE TO PWB
THE SCANNER CABLES WILL BE PASSED TO THE CORE 2 TIMES.
POSITION OF CORE
IT WILL BE HOOKED THE CABLES BETWEEN THE HOOKING RIBS.
THE DRIVE UNIT CABLES WILL BE PASSED TO THE CORE AT 2 TIMES.
rib
FIX THE CORE LIKE A PICTURE
80±10mm
IT WILL BE PASSED THE CABLE BEHIND THE DRIVE UNIT AS ARROW Ⓐ DIRECTION.

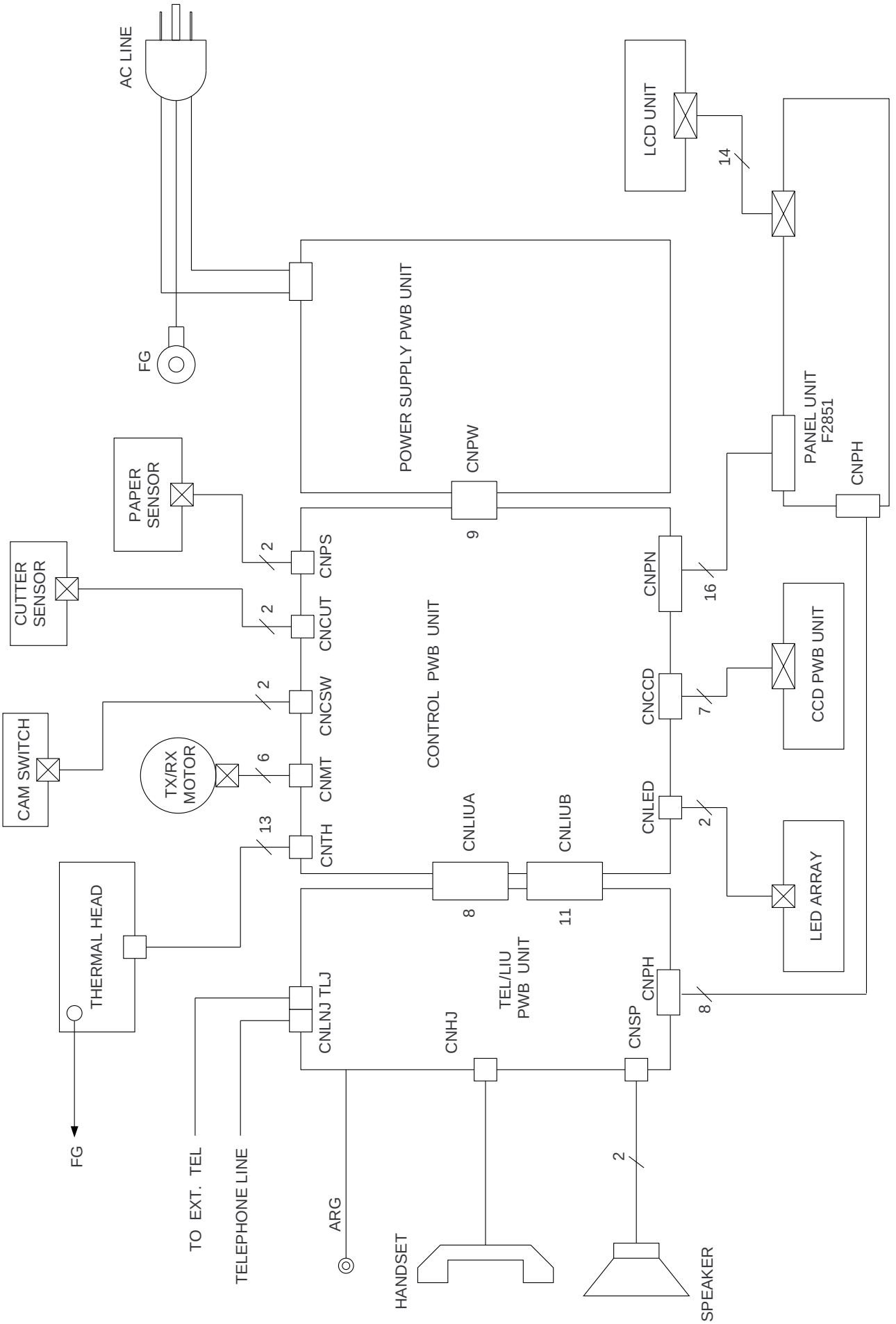
Fig. 9

CHAPTER 4. DIAGRAMS

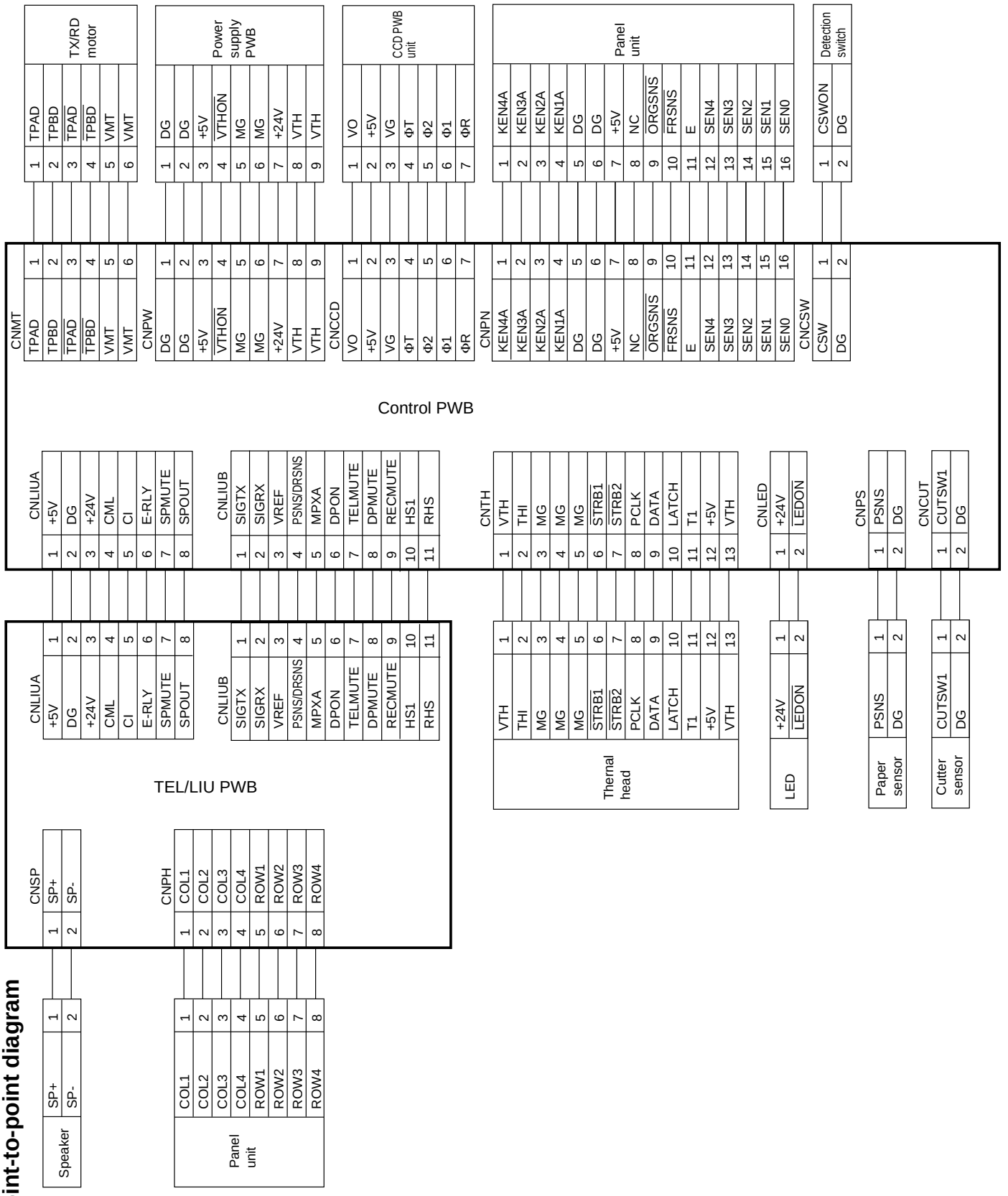
[1] Block diagram



[2] Wiring diagram



[3] Point-to-point diagram



CHAPTER 5. CIRCUIT DESCRIPTION

[1] Circuit description

1. General description

The compact design of the control PWB is obtained by using ROCKWELL fax engine in the main control section and high density printing of surface mounting parts. Each PWB is independent according to its function as shown in Fig. 1.

2. PWB configuration

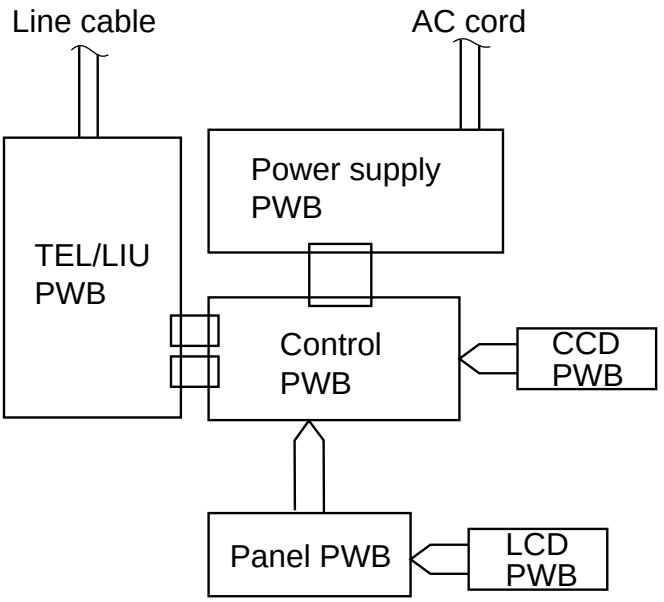


Fig. 1

1) Control PWB

The control PWB controls peripheral PWBs, mechanical parts, transmission, and performs overall control of the unit.

This machine employs a 1-chip modem (R96DFXL-CID) which is installed on the control PWB.

2) TEL/LIU PWB

This PWB controls connection of the telephone line to the unit.

3) Power supply PWB

This PWB provides voltages of +5V, and +24V to the another PWB.

4) Panel PWB

The panel PWB allows input of the operation keys.

5) CCD PWB

This PWB controls the pickup optical device.

6) LCD PWB

This PWB controls the LCD display.

3. Operational description

Operational descriptions are given below:

- Transmission operation

When a document is loaded in standby mode, the state of the document sensor is sensed via the 1 chip fax engine (SFE-LC). If the sensor signal was on, the motor is started to bring the document into the standby position. With depression of the START key in the off-hook state, transmission takes place.
Then, the procedure is sent out from the modem and the motor is rotated to move the document down to the scan line. In the scan processor, the signal scanned by the CCD is sent to the internal image processor and the AD converter to convert the analog signal into binary data. This binary data is transferred from the scan processor to the image buffer within the RAM and encoded and stored in the transmit buffer of the RAM. The data is then converted from parallel to serial form by the modem where the serial data is modulated and sent into the line.

- Receive operation

There are two ways of starting reception, manual and automatic. Depression of the START key in the off-hook mode in the case of manual receive mode, or CI signal detection by the LIU in the automatic receive mode.
First, the SFE-LC controls the procedure signals from the modem to be ready to receive data. When the program goes into phase C, the serial data from the modem is converted to parallel form in the modem interface of the 1 chip fax engine (SFE-LC) which is stored in the receive buffer of the RAM. The data in the receive buffer is decoded software-wise to reproduce it as binary image data in the image buffer. The data is DMA transferred to the recording processor within the SFE-LC which is then converted from parallel to serial form to be sent to the thermal head. The data is printed line by line by the SFE-LC which is assigned to control the motor rotation and strobe signal.

- Copy operation

To make a copy on this facsimile, the COPY key is pressed when the machine is in stand-by with a document on the document table and the telephone set is in the on-hook state.
First, depression of the COPY key advances the document to the scan line. Similar to the transmitting operation, the image signal from the CCD is converted to a binary signal in the DMA mode via the 1 chip fax engine (SFE-LC) which is then sent to the image buffer of the RAM. Next, the data is transferred to the recording processor in the DMA mode to send the image data to the thermal head which is printed line by line. The copying takes place as the operation is repeated.

[2] Circuit description of control PWB

1. General description

Fig. 2 shows the functional blocks of the control PWB, which is composed of 4 blocks.

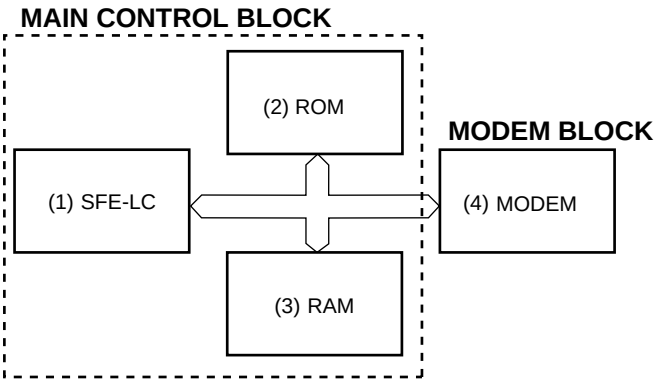


Fig. 2 Control PWB functional block diagram

2. Description of each block

(1) Main control block

The main control block is composed of ROCKWELL 1 chip fax engine (SFE-LC), ROM (128KByte), RAM (32KByte) and Modem (R96DFXL-CID). Devices are connected to the bus to control the whole unit.

1) SFE-LC (IC8) : pin-144 QFP (SFE-LC)

2) R96DFXL (IC5) : pin-100 QFP (MODEM)

The FAXENGINE Integrated Facsimile Controllers.

SFE-LC, contains an internal 8 bit microprocessor with an external 2 Mbyte address space and dedicated circuitry optimized for facsimile image processing and facsimile machine control and monitoring.

3) 27C1000 (IC1): pin-32 DIP (ROM)

1 time ROM of 1Mbit equipped with software for the main CPU.

4) M5M5255CFP-70LL (IC3): pin-28 SOP (RAM)

Line memory for the main CPU system RAM area and coding/decoding process. Used as the transmission buffer.

Memory of recorded data such as daily report and auto dials. When the power is turned off, this memory is backed up by the lithium battery.

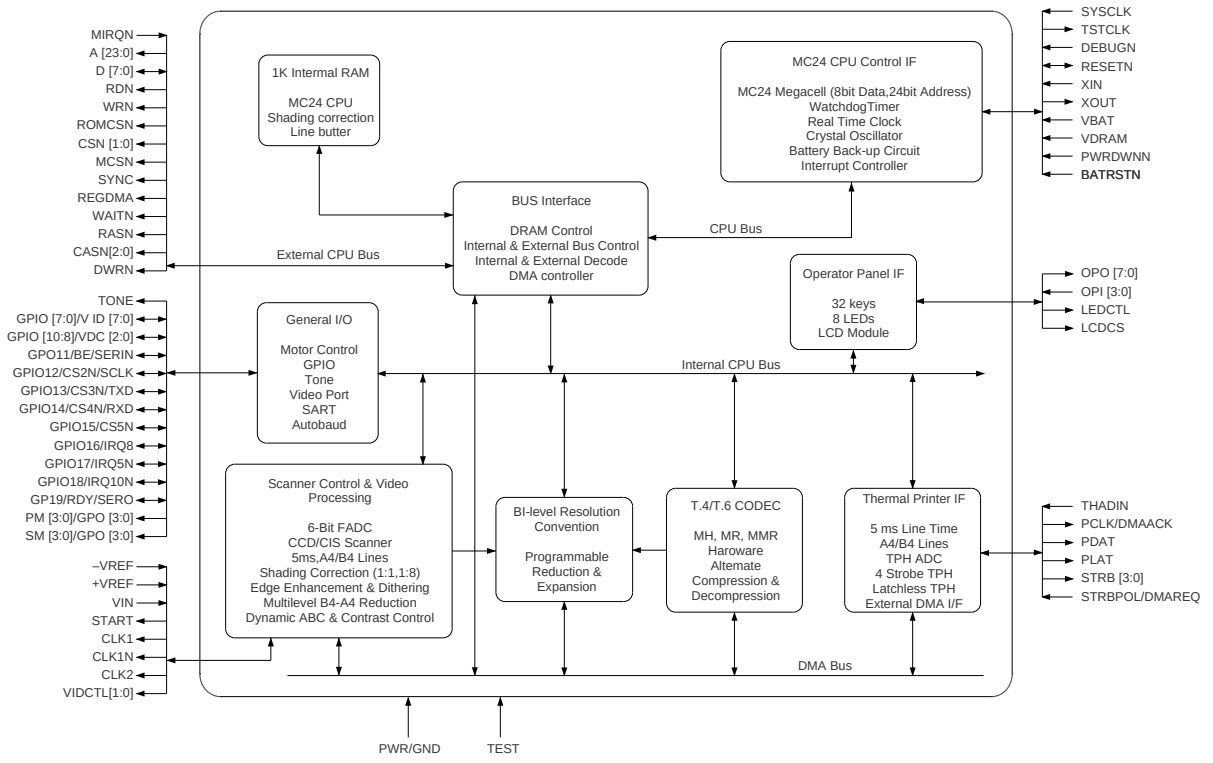


Fig. 3

SFE-LC (IC8) terminal descriptions

Pin Name	Pin No.	I/O	Input Type	Output Type	Pin Description (Active low signals have an "n" pin name ending.)
CPU Control Interface					
MIRQn	135	I	HU	–	Modem interrupt. (Hysteresis In, Internal Pullup.)
SYSCLK	133	I	H	–	System clock. (Hysteresis In.)
TSTCLK	130	O	–	3XC	Test clock.
Bus Control Interface					
A[19:0]	[5:6][8:13] [15:20][22:27]	O	T	3XT	Address bus (20-bit).
D[7:0]	[136:139] [141:144]	I/O	T	3XT	Data bus (8-bit).
RDn	128	O	–	3XTT	Read strobe.
WRn	127	O	–	3XTT	Write strobe.
ROMCSn	120	O	–	2XT	ROM chip select.
CS1n	122	O	–	2XT	I/O chip select.
CS0n	57	O	–	2XTT	SRAM chip select. (Battery powered.)
MCSn	121	O	–	2XC	Modem chip select.
SYNC	126	O	–	2XC	Indicates CPU op code fetch cycle (active high).
REGDMA	124	O	–	3XC	Indicates REGSEL cycle and DMA cycle.
WAITn	125	O	–	3XC	Indicates current TSTCLK cycle is a wait state or a halt state.
Prime Power Reset Logic and Test					
DEBUGn	129	I	HU	–	External non-maskable input (NMI).
RESETn	131	I/O	HU	2XO	XFC-B Reset.
TEST	58	I	C	–	Sets Test mode (battery powered).
Battery Power Control and Reset Logic					
XIN	59	I	OSC	–	Crystal oscillator input pin.
XOUT	60	O	–	OSC	Crystal oscillator output pin.
PWRDWNn	62	I	H	–	Indicates loss of prime power (results in NMI).
BATRSTn	61	I	H	–	Battery power reset input.
Scanner Interface					
START	101	O	–	2XS	Scanner shift gate control.
CLK1	100	O	–	2XS	Scanner clock.
CLK1n	99	O	–	2XS	Scanner clock-inverted.
CLK2	98	O	–	2XS	Scanner reset gate control (or clock for CIS scanner).
VIDCTL[1:0]	[97:96]	O	–	2XC	Control for video preprocessing circuits.
Printer Interface					
PCLK	29	O	–	3XC	Thermal Print Head (TPH) clock.
PDAT	30	O	–	2XP	Serial printing data (to TPH).
PLAT	31	O	–	3XP	TPH data latch.
STRB[3:0]	[33:36]	O	–	1XP	Strobe signals for the TPH.
STRBPOL	37	I	C	–	Sets strobe polarity, active high/low.

Pin Name	Pin No.	I/O	Input Type	Output Type	Pin Description
Operator Panel Interface					
OPO[4:0]	[42:44][46:47]	O	–	2XL	Keyboard/LED strobe [4:0].
OPI[3:0]	[49:52]	I	HU	–	Keyboard return [3:0]. (Pullup. Hysteresis In.)
LEDCTL	55	O	–	4XC	Indicates outputs OPO [4:0] are for LEDs.
LCDCS	54	O	–	1XC	LCD chip select.
General Purpose I/O					
GPIO[7:0]/ VID[7:0]	[86:87][89:94]	I/O	H	2XC	Programmable: GPIO (8 lines) or video data bus.
GPIO[10:8]/ VDC[2:0]	[83:85]	I/O	H	2XC	Programmable: GPIO (3 lines) or video data control signals.
GPIO12/ CS2n/SCLK	80	I/O	H	2XC	Programmable: GPIO line, I/O chip select or SCLK (SART).
GPIO13/ CS3n/TXD	79	I/O	H	2XC	Programmable: GPIO line, I/O chip select or TXD (SART).
GPIO14/ CS4n/RXD	78	I/O	H	2XC	Programmable: GPIO line, I/O chip select or RXD (SART).
GPIO16/ IRQ8	76	I/O	H	1XC	Programmable: GPIO line or active high interrupt.
GPIO17/ IRQ5n	75	I/O	H	1XC	Programmable: GPIO line or active low interrupt.
Miscellaneous					
SM[3:0]/ GPO[7:4]	[103:106]	O	–	1XC	Programmable: scan motor control pins or GPO pins.
PM[3:0]/ GPO[3:0]	[115:118]	O	–	1XC	Programmable: print motor control pins or GPO pins.
TONE	119	O	–	1XC	Tone output signal.
Power, Reference Voltages, Ground					
–Vref	66	I	–VR	–	Negative Reference Voltage for Video A/D.
+Vref	68	I	+VR	–	Positive Reference Voltage for Video A/D.
ADGA	69		VADG		A/D Analog Ground.
ADVA	70		VADV		A/D Analog Power.
ADGD	72		VADG		A/D Digital Ground.
ADVD	71		VADV		A/D Digital Power.
VIN	67	I	VA	–	Analog Video A/D input.
THADI	65	I	TA	–	Analog Thermal A/D input.
VSS (8)	134, 132, 95, 88, 53, 45, 28, 21				Digital Ground.
VDD (7)	140, 123, 102, 81, 48, 41, 14				Digital Power.
VBAT	63				Battery Power.
No Connection					
NC	1, 2, 3, 4, 7, 32, 38, 39, 40, 56, 64, 73, 74, 77, 82, 107, 108, 109, 110-114				No connection.

(2) Panel control

The following controls are performed by the SFE-LC.

- Operation panel key scanning
- Operation panel LCD display

(3) Mechanism/recording control block

- Recording control block diagram (1)

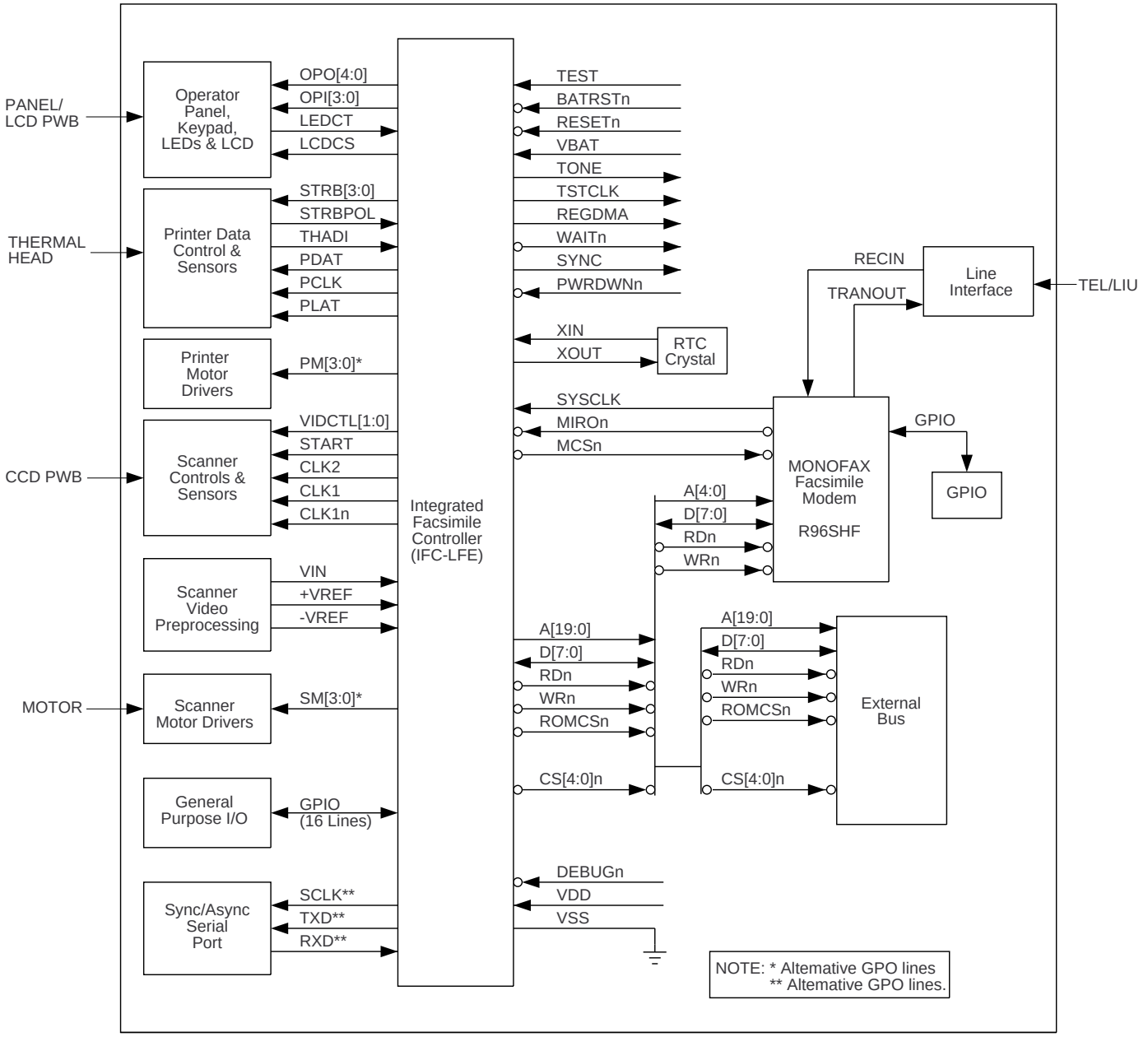


Fig. 4

(4) Modem (R96DFXL) block

INTRODUCTION

The Rockwell R96DFXL MONOFAX modem is a synchronous 9600 bits per second (bps) half-duplex modem with error detection and DTMF reception. It has low power consumption and requires only a single +5V DC power supply. The modem is housed in a single VLSI device package.

The modem can operate over the public switched telephone network (PSTN) through line terminations provided by a data access arrangement (DAA).

The R96SHF is designed for use in Group 3 facsimile machines. The modem satisfies the requirements specified in CCITT recommendations V.29, V.27 ter, V.21 Channel 2 and T.4, and meets the binary signaling requirements of T.30.

The modem can operate at 9600, 7200, 4800, 2400, or 300 bps, and also includes the V.27 ter short training sequence option.

The modem can also perform HDLC framing according to T.30 at 9600, 7200, 4800, 2400, or 300 bps.

The modem features a programmable DTMF receiver and three programmable tone detectors which operate concurrently with the V.21 channel 2 receiver.

The voice mode allows the host computer to efficiently transmit and receive audio signals and messages.

The modem is available in either a 100-pin plastic quad flat pack (PQFP) or a 64-pin quad in-line package (QUIP).

General purpose input/output (GPIO) pins are available for host assignment in the 100-pin PQFP.

The modem's small size, single voltage supply, and low power consumption allow the design of compact system enclosures for use in both office and home environments.

MONOFAX is a registered trademark of Rockwell International.

FEATURES

- Group 3 facsimile transmission/reception
  - CCITT V.29, V.27 ter, T.30, V.21 Channel 2, T.4
  - HDLC Framing at all speeds
- V.27 ter short train
- Concurrent DTMF, FSK, and tone reception
- Voice mode transmission/reception
- Half-duplex (2-wire)
- Caller ID reception (V.23 receive-1200 bps)
- Programmable maximum transmit level:
  0 dBm to –15 dBm
- Programmable transmit analog attenuation:
  0 dB to 14 dB in 2 dB steps
- Receive dynamic range: 0 dBm to –43 dBm
- Programmable dual tone generation
- Programmable tone detection
- Programmable turn-on and turn-off thresholds
- Programmable interface memory interrupt
- Diagnostic capability
  - Allows telephone line quality monitoring
- Equalization
  - Automatic adaptive equalizer
  - Fixed digital compromise equalizer
- DTE interface: two alternate ports
  - Selectable microprocessor bus (6500 or 8085)
  - CCITT V.24 (EIA-232-D compatible) interface
- TTL and CMOS compatible
- Low power consumption: 275 mW (typical)
- Single Package
  - 100-pin PQFP
  - 64-pin QUIP
- Single +5VDC power supply
- Software compatible with R96MFX, R96EFX, R96SHF, and R96VFX modems

R96DFXL (IC5) Hardware Interface Signals

Pin Signals – 100-Pin PQFP

Pin No.	Signal Name	I/O Type
1	GP03	IA/OB
2	GP04	IA/OB
3	GP05	IA/OB
4	GP06	IA/OB
5	GP07	IA/OB
6	0VD2	GND
7	0VD2	GND
8	D7	IA/OB
9	D6	IA/OB
10	D5	IA/OB
11	D4	IA/OB
12	D3	IA/OB
13	D2	IA/OB
14	D1	IA/OB
15	D0	IA/OB
16	0VD2	GND
17	0VA	GND
18	RAMPIN	R
19	NC	
20	NC	
21	0VA	GND
22	+5VD2	PWR
23	0VD1	GND
24	SWGAINI	R
25	ECLKIN1	R
26	SYNCIN1	R
27	NC	
28	NC	
29	NC	
30	0VA	GND
31	NC	
32	NC	
33	NC	
34	DAIN	R
35	ADOUT	R
36	BYPASS	IC
37	RCVI	R
38	TXLOSS3	IC
39	TXLOSS2	IC
40	TXLOSS1	IC
41	NC	
42	NC	
43	0VA	GND
44	TXOUT	AA
45	RXIN	AB
46	+5VA	PWR
47	0VA	GND
48	AGD	R
49	AOUT	R
50	0VD1	GND
51	NC	
52	$\overline{\text{IRQ}}$	OC
53	$\overline{\text{WRITE}}$-R/$\overline{\text{W}}$	IA
54	$\overline{\text{CS}}$	IA
55	$\overline{\text{READ}}$-ϕ2	IA
56	RS4	IA
57	RS3	IA
58	RS2	IA
59	RS1	IA
60	RS0	IA
61	GP13	IA/OB
62	NC	
63	GP11	IA/OB
64	$\overline{\text{RTS}}$	IA
65	$\overline{\text{EN85}}$	R
66	0VD2	GND
67	$\overline{\text{PORI}}$	ID
68	XTLI	R
69	XTLO	R
70	XCLK	OD
71	YCLK	OD
72	+5VD1	PWR
73	DCLKI	R
74	SYNCIN2	R
75	GP16	IA/OB
76	GP17	IA/OB
77	0VD2	GND
78	$\overline{\text{CTS}}$	OA
79	TXD	IA
80	0VD2	GND
81	0VD2	GND
82	DCLK	OA
83	EYESYNC	OA
84	EYECLKX	OA
85	EYECLK	OA
86	EYEX	OA
87	ADIN	R
88	DAOUT	R
89	0VD2	GND
90	EYEY	OA
91	GP21	IA/OB
92	0VD2	GND
93	GP20	IA/OB
94	GP19	IA/OB
95	RXD	OA
96	$\overline{\text{RLSD}}$	OA
97	0VD2	GND
98	RCVO	R
99	SWGAINO	R
100	GP02	IA/OB

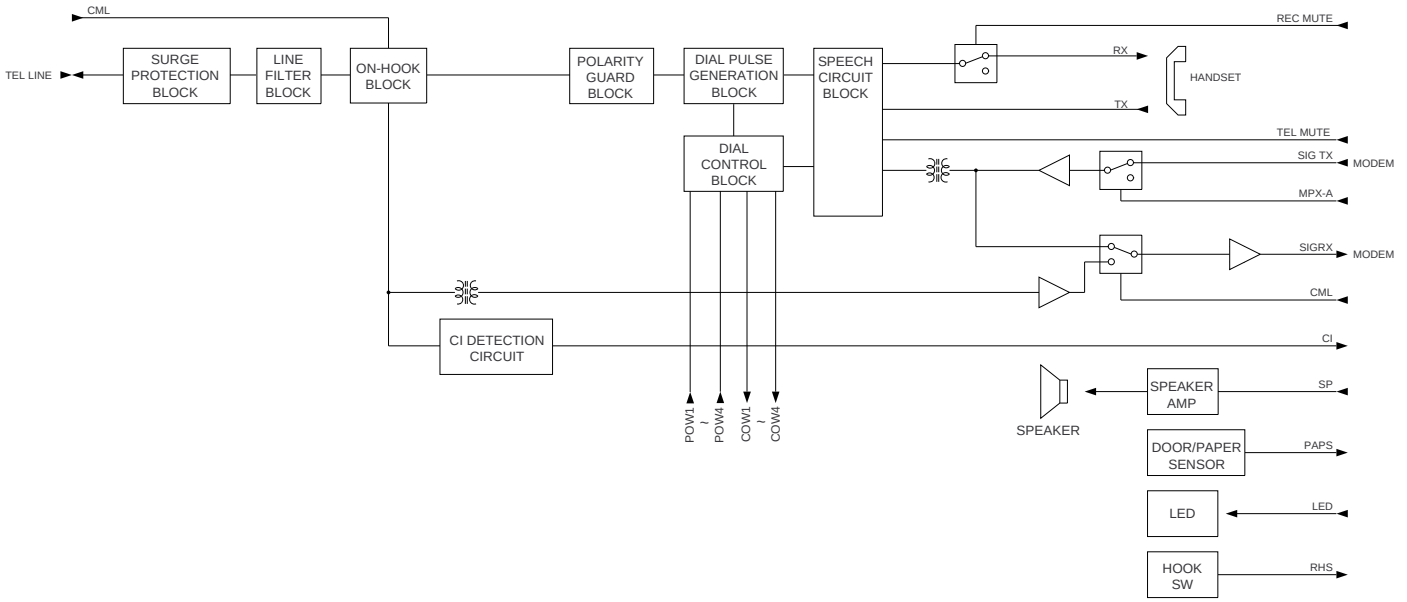
Notes:

1. NC = No connection; leave pin disconnected (open).
2. I/O Type: Digital signals: see Table 9;
   Analog signals: see Table 10.
3. R = Required modem inter-connection; no connection to host equipment.

[3] Circuit Description of TEL/LIU PWB

(1) TEL/LIU block operational description

1) Block diagram



2) Circuit description

The TEL/LIU PWB is composed of the following 12 blocks.

1. Line filter block
2. Cl block
3. Polarity guard block
4. Dial control block
5. Pulse transmitting block
6. ON-hook block
7. Hook detection block
8. Communication circuit block
9. Speaker amplifier block
10. Power supply
11. Sensor block
12. Signal selection

3) Block description

1. Line filter block

This block is composed of a (L1) and is used to remove noise from the telephone line.

2. Cl block

This block is composed of a photo coupler (PC3) and is used to convert ringer signal into a digital signal.

3. Polarity guard block

This block is composed of diode bridge (REC1) and is used to supply a current and voltage of the same polarity to the telephone circuit regardless of reversion of polarity in the telephone circuit.

4. Dial control block

This block is composed of dialer IC (IC105) and crystal oscillator (×1). The dialer IC is controlled with 4-bit data from operation panel when the power is switched off. There is not used the dialer IC, when the power is switched on.

5. Pulse transmitting block

This block is composed of transistor (Q1), photo coupler (PC5) and zener diode. Dial pulses supplied from CPU are amplified by transistor (Q1) through a photo coupler (PC4) to the telephone line.

6. ON-hook block

This block is composed of CML relay (CML), and CML is for connection of the telephone line.

7. Hook detection block

This block is composed of hook switch (SW1), and is used to detect on/off of the hook switch and to inform CPU of connection/open of the telephone line.

8. Communication circuit block

This block is composed of the speech IC (IC1), and is equipped with 2-line/4-line select circuit, auto pad circuit, and all other circuit.

9. Speaker amplifier block

This block is composed of the speech amplifier IC (IC101), and is used to amplify voice signal in monitoring or in speaker reception with the amplifier IC and to supply to the speaker.

10. Power supply

+24V and +5V are supplied from the control unit through the connector CNLIUA-1~3.

11. Sensor block

This block is composed of PSNS (PE1), and is used to sense the presence of recording paper and the cover open/close of the cover.

12. Signal selection

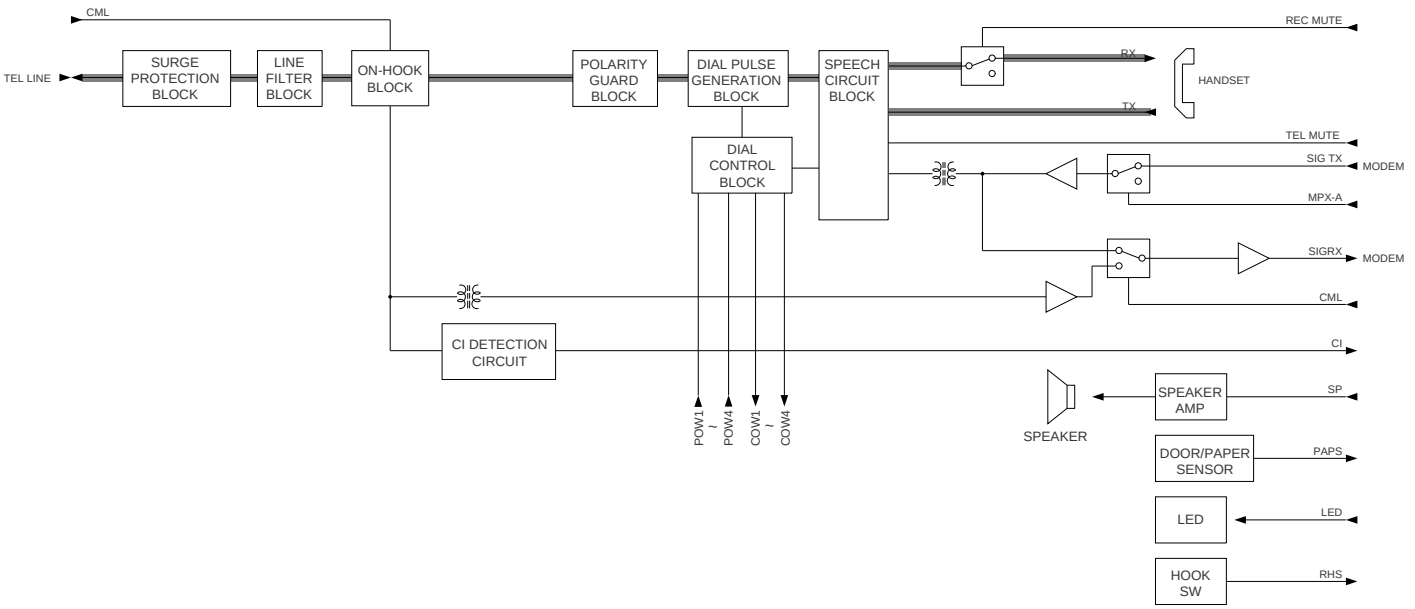
The following signals are used to control the transmission line of TEL/FAX signal.

- TEL MUTE : Controls the mute of handset voice transmission signal.
- REC MUTE: Controls the mute of handset voice reception signal.
- SP-MUTE: Controls the mute of speaker amplifier.
- MPX A: Mutes the transmission drive amplifier.

  H: Selected when the FAX signal is being received

  L: Selected when the telephone is being used or when the FAX signal is being transmitted

Signal flow when TEL speaking



[4] Circuit description of power supply PWB

1. Block diagram

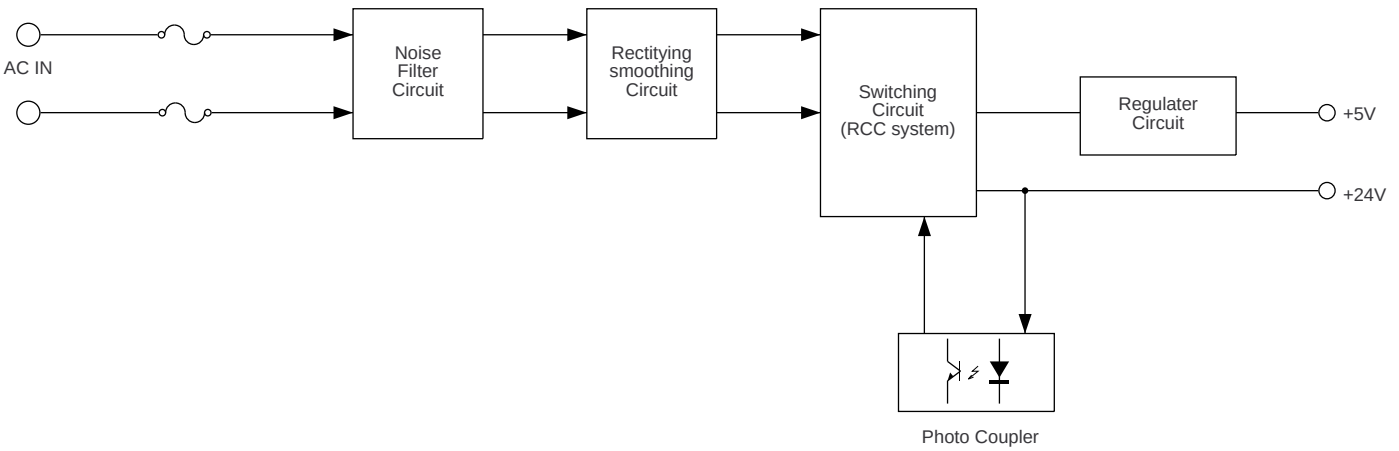


Fig. 8

2-1. Noise filter circuit

The input noise filter section is composed of L and C, which reduces normal mode noise from the AC line and common mode noise to the AC line.

2-2. Rectifying/smoothing circuit

The AC input voltage is rectified by diode D1, D2, D3, D4 and smoothed by capacitor C5 to supply DC voltage to the switching circuit section.

Power thermistor TH1 suppresses inrush current at power switch-on.

2-3. Switching circuit

This circuit employs the self excited ringing choke convertor (RCC) system. In this system, the DC voltage supplied from the rectifying/smoothing section is converted into high frequency pulses by ON/OFF repetition of MOS FET Q1.

Energy is charged in the primary winding of T1 during ON period of Q1, and discharged to the secondary winding during OFF period.

The output voltage is controlled by adjusting ON period of Q1 which changes charge time of C9 through operation of photo-coupler PC1 from 24V output.

The overcurrent protection is performed by bringing Q1 to OFF state through detection of voltage increase in the auxiliary winding of T1 by ZD2 and R9.

The overvoltage protection is performed by operating the overcurrent protection circuit through destruction of zener diode ZD4 and short-circuiting of load.

2-4. +5V circuit

Each DC voltage supplied by rectifying the output of transformer T1 with diode D8 is stabilized by 3-terminal regulator IC1.

2-5. Fuse (F1, F3)

Be sure to use the following fuses.

Maker: LITTELE

Type: 2151.25 ME 600

Rating: T1.25 AH 250V

Sharp code: 0 CBPJCTY 1251/

[5] Circuit description of CCD PWB

The CCD board picks up optical information from the document, converts it into an electrical (analog) signal and transfers it to the control boad.

(1) Block diagram

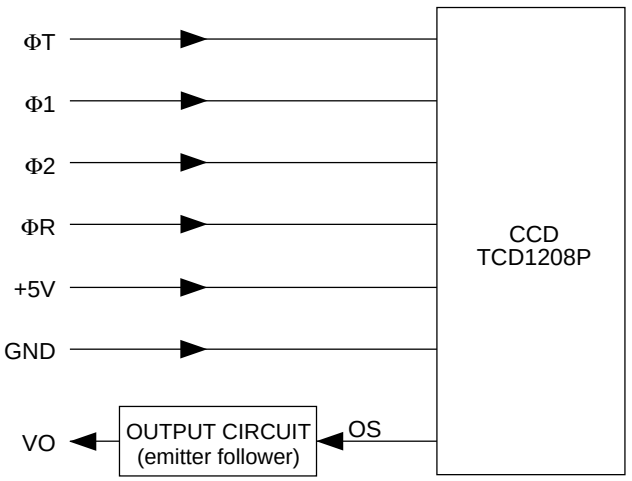


Fig. 8

(2) Description of blocks

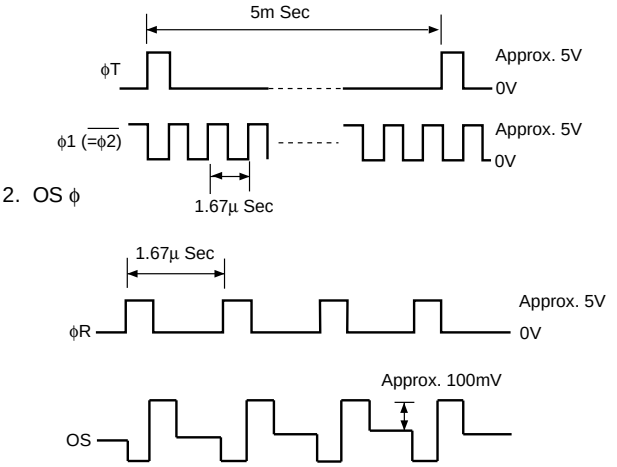
1. CCD

The TCD1208P is a highly sensitive charged coupled image sensor that consists of 2160 picture elements.

Receiving four drive signal (ϕT, ϕ2, ϕ1, ϕR) from the control board, the tranferred photoelectric analog signal OS is impedance converted, and the signal VO, is supplied to the control board.

2. Waveforms

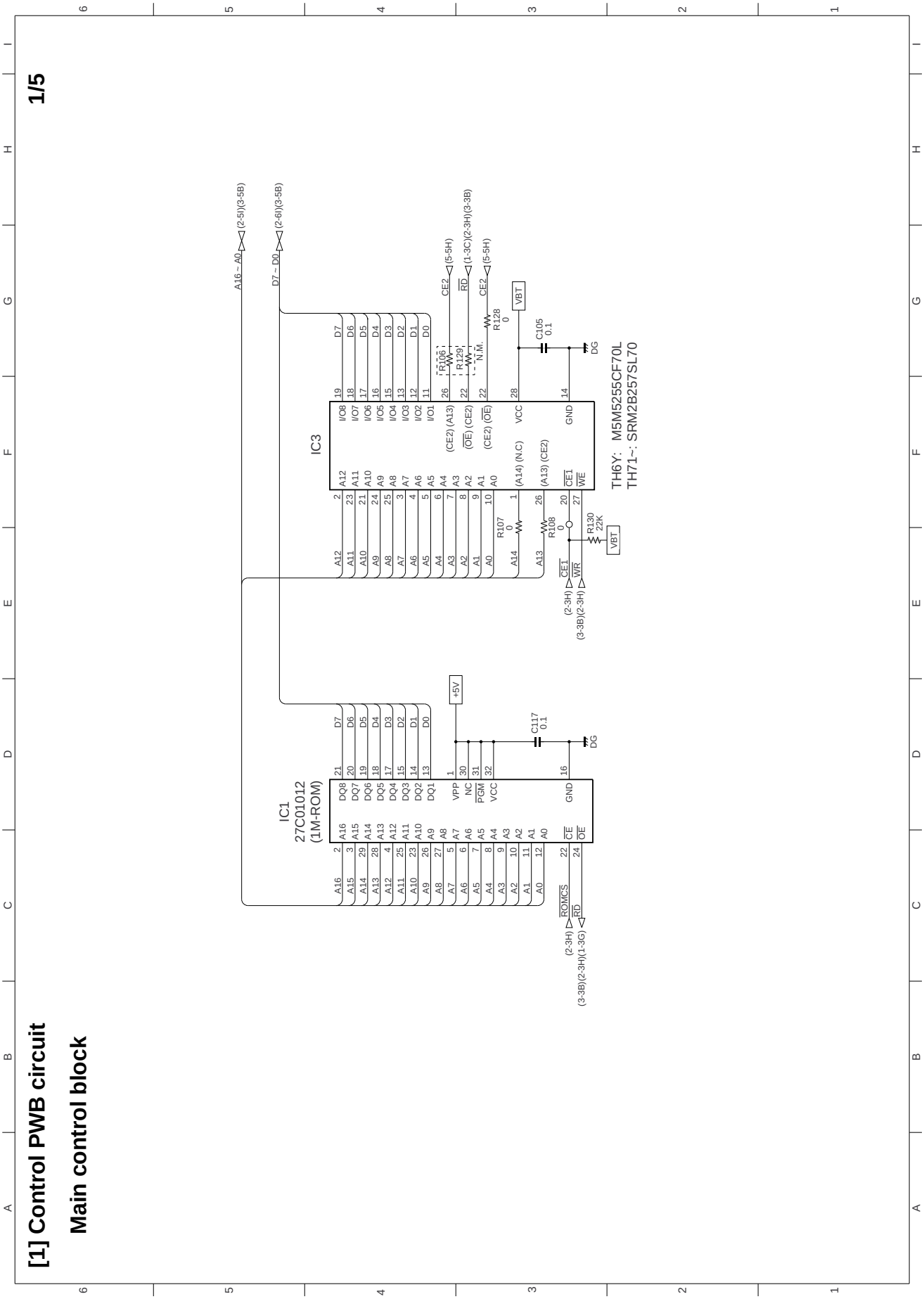
1. ϕ1, ϕ2 (=$\overline{\phi 1}$) signals within the control board.

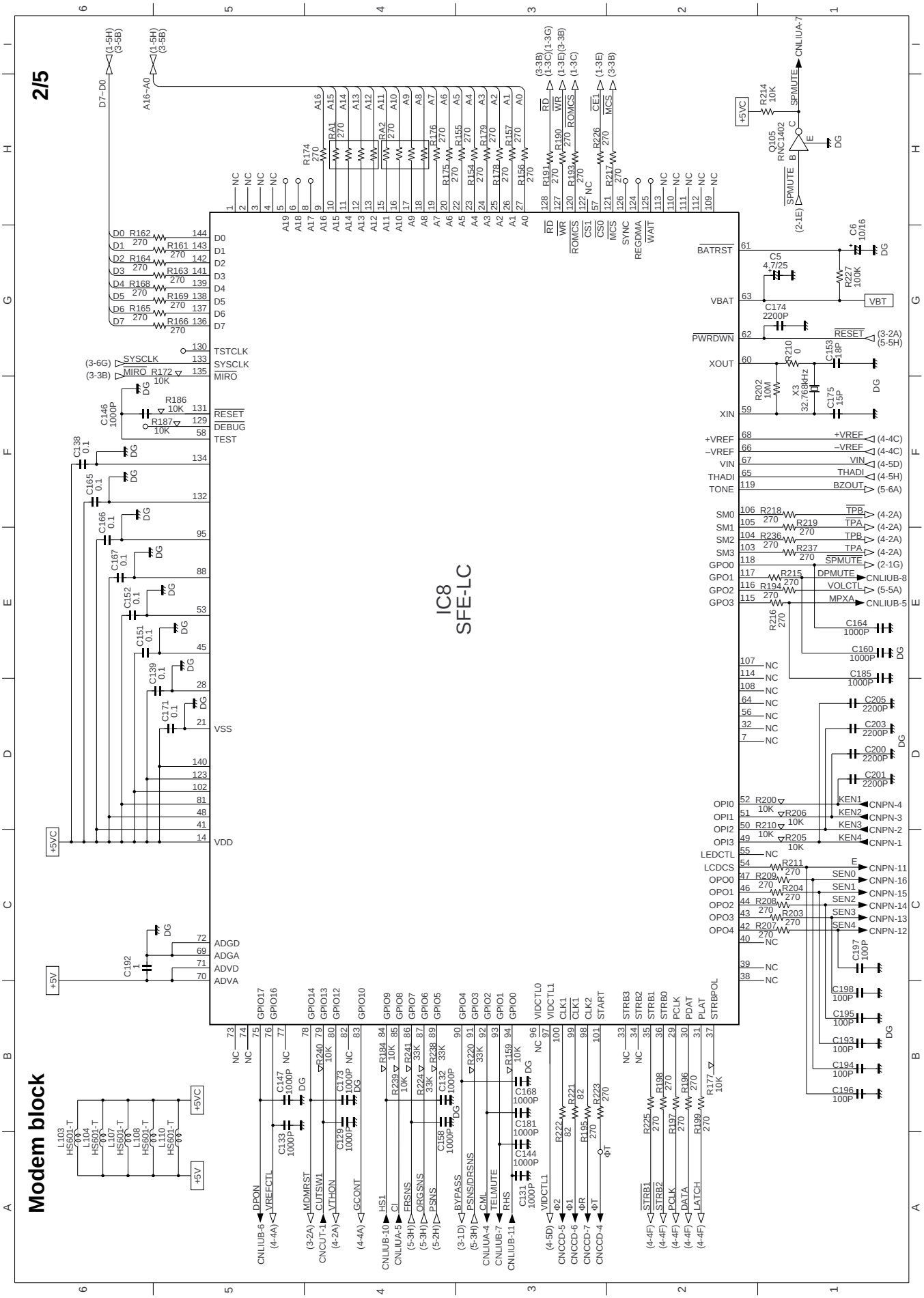


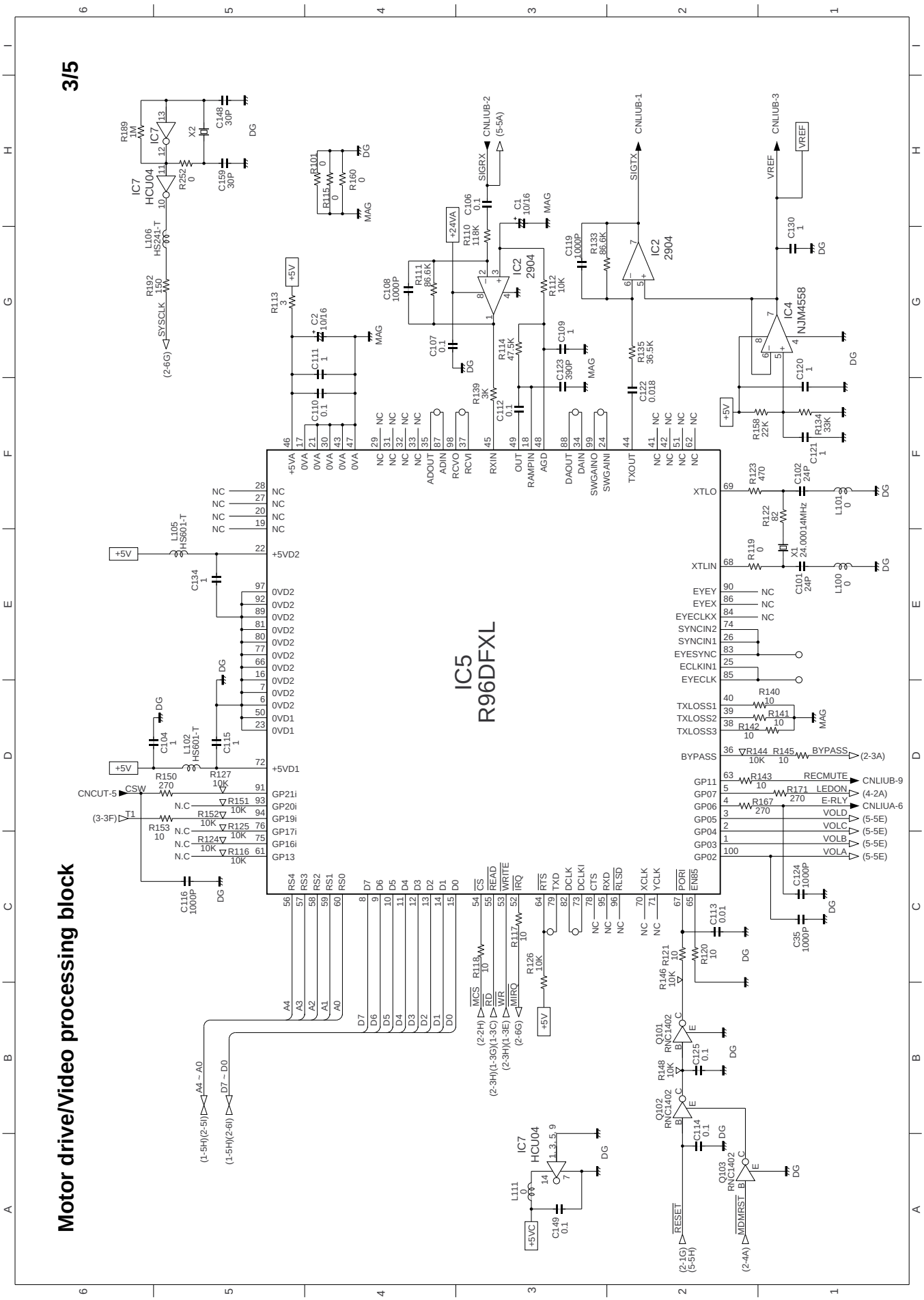
2. OS ϕ

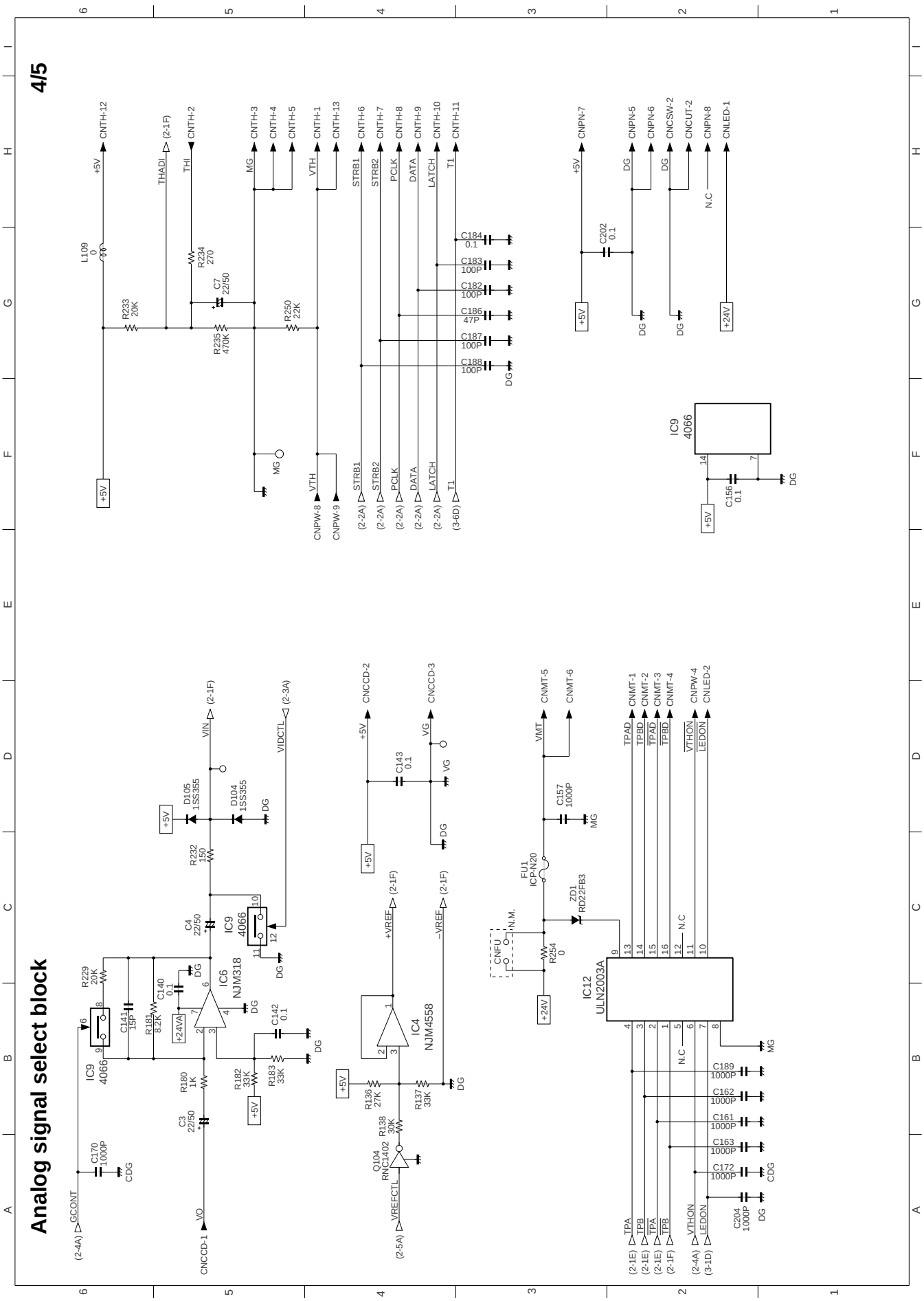
Fig. 9

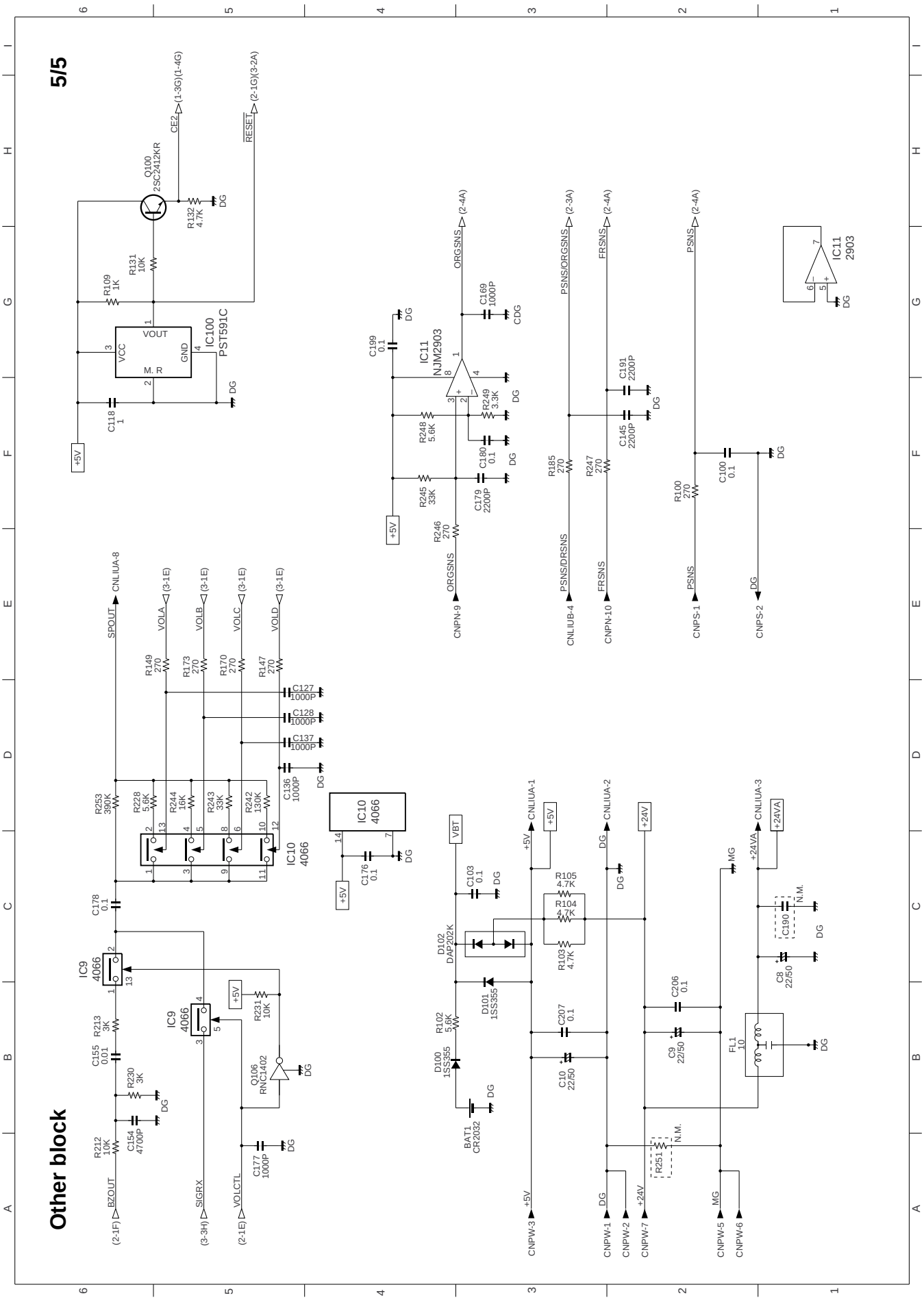
CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT



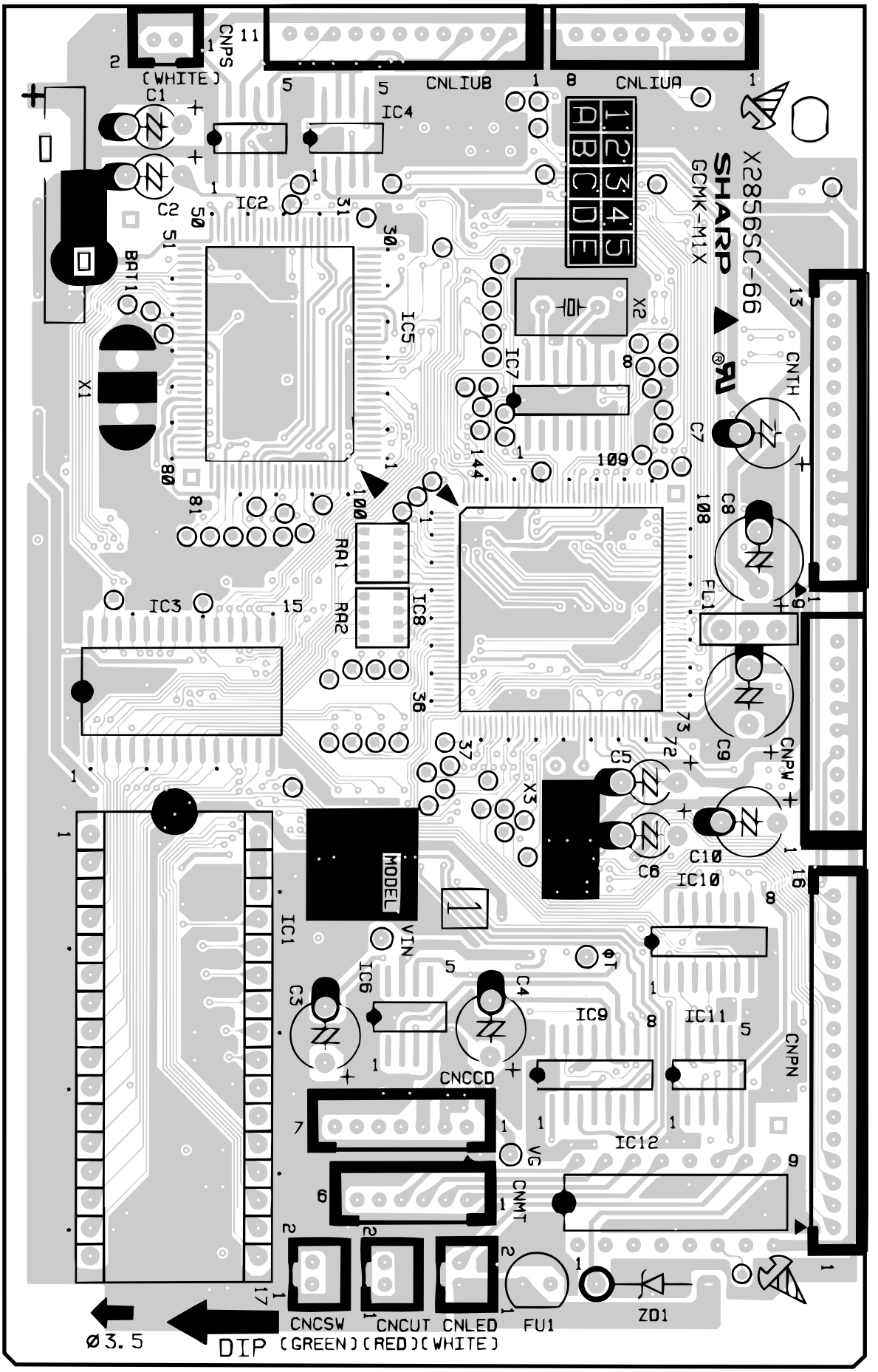

2/5
Modem block
IC8
SFE-LC


3/5
Motor drive/Video processing block
IC5
R96DFXL
IC7
HCU04
IC2
2904
IC4
NJM4558
X1
24.00014MHz
X2
CNCUT-5
(3-3F)
(2-6G)
(1-5H)(2-5I)
(1-5H)(2-6I)
(2-2H)
(2-3H)(1-3G)(1-3C)
(2-3H)(1-3E)
(2-6G)
(2-1G)
(5-5H)
(2-4A)
(2-3A)
(4-2A)
(5-5E)
CNLIUB-1
CNLIUB-2
CNLIUB-3
CNLIUA-6
CNLIUB-9
SYSCLK
RESET
MDMRST
BYPASS
RECMUTE
LEDON
E-RLY
VOLD
VOLC
VOLB
VOLA
SIGRX
SIGTX
VREF
+5V
+24VA
+5VC
DG
MAG

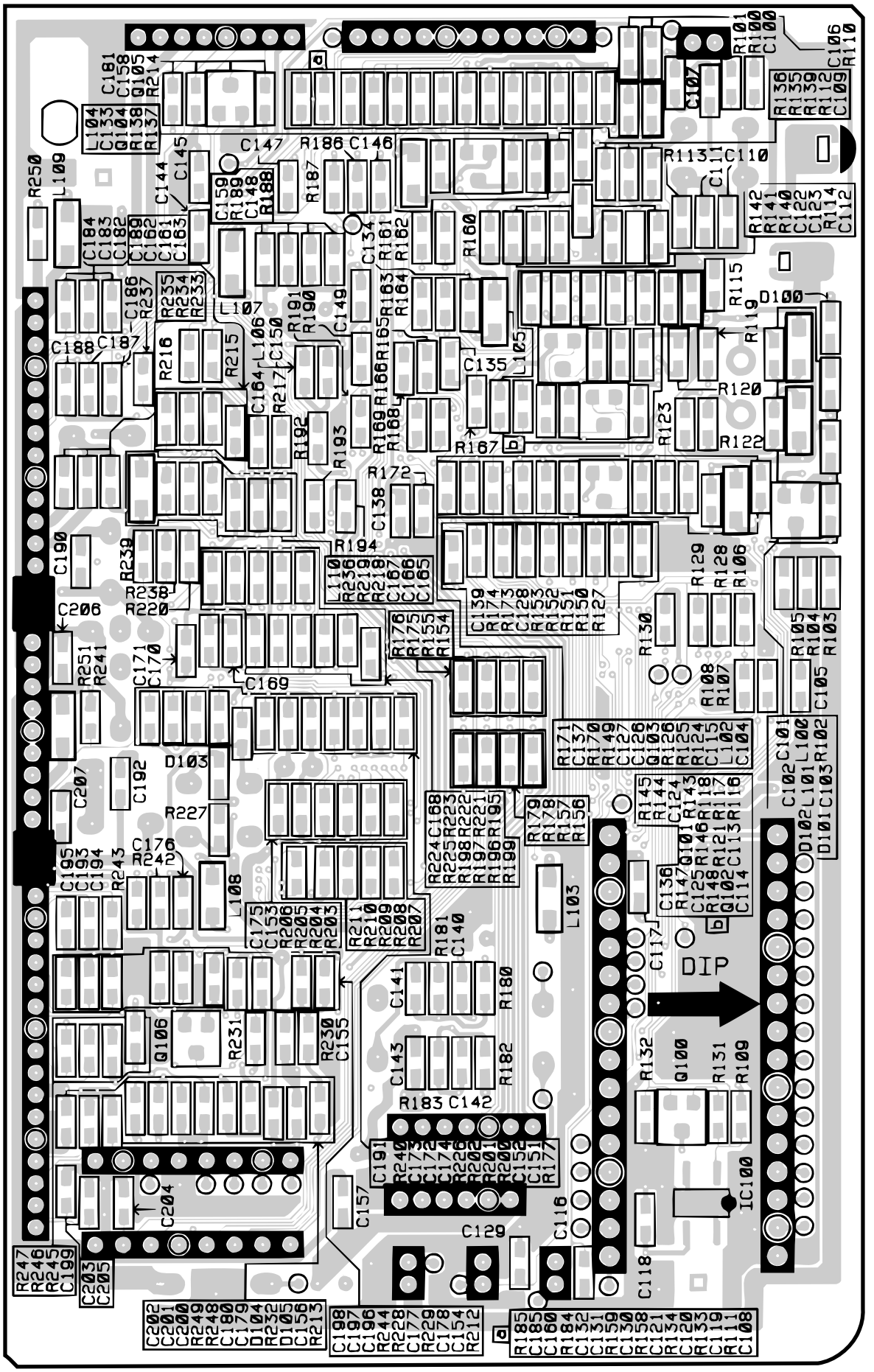

4/5
Analog signal select block
CNTH-12
THADI
(2-1F)
THI
CNTH-2
CNTH-3
CNTH-4
CNTH-5
CNTH-1
CNTH-13
CNTH-6
CNTH-7
CNTH-8
CNTH-9
CNTH-10
CNTH-11
STRB1
STRB2
PCLK
DATA
LATCH
T1
CNPW-8
CNPW-9
(2-2A)
(3-6D)
CNPN-7
CNPN-5
CNPN-6
CNCSW-2
CNCUT-2
CNPN-8
CNLED-1
N.C
IC9
4066
IC6
NJM318
IC4
NJM4558
IC12
ULN2003A
VIN
VIDCTL
(2-3A)
CNCCD-1
CNCCD-2
CNCCD-3
VO
VG
+VREF
–VREF
VREFCTL
(2-5A)
GCONT
(2-4A)
CDG
VMT
CNMT-5
CNMT-6
CNMT-1
CNMT-2
CNMT-3
CNMT-4
TPAD
TPBD
TPA
TPB
VTHON
LEDON
CNPW-4
CNLED-2
(2-1E)
(2-4A)
(3-1D)
FU1
ICP-N20
ZD1
RD2FB3
CNFU
N.M.
MG
DG
+5V
+24V
+24VA
C170 1000P
C3 22/50
C4 22/50
C7 22/50
C140 0.1
C141 15P
C142 0.1
C143 0.1
C156 0.1
C157 1000P
C161 1000P
C162 1000P
C163 1000P
C172 1000P
C183 100P
C182 100P
C184 0.1
C186 47P
C187 100P
C188 100P
C189 1000P
C202 0.1
C204 1000P
R180 1K
R181 8.2K
R182 33K
R183 33K
R191 82K
R229 20K
R232 150
R233 20K
R234 270
R235 470K
R250 22K
R136 27K
R137 33K
R138 30K
R254 0
L109 0
D104 1SS355
D105 1SS355
Q104 RNC1402

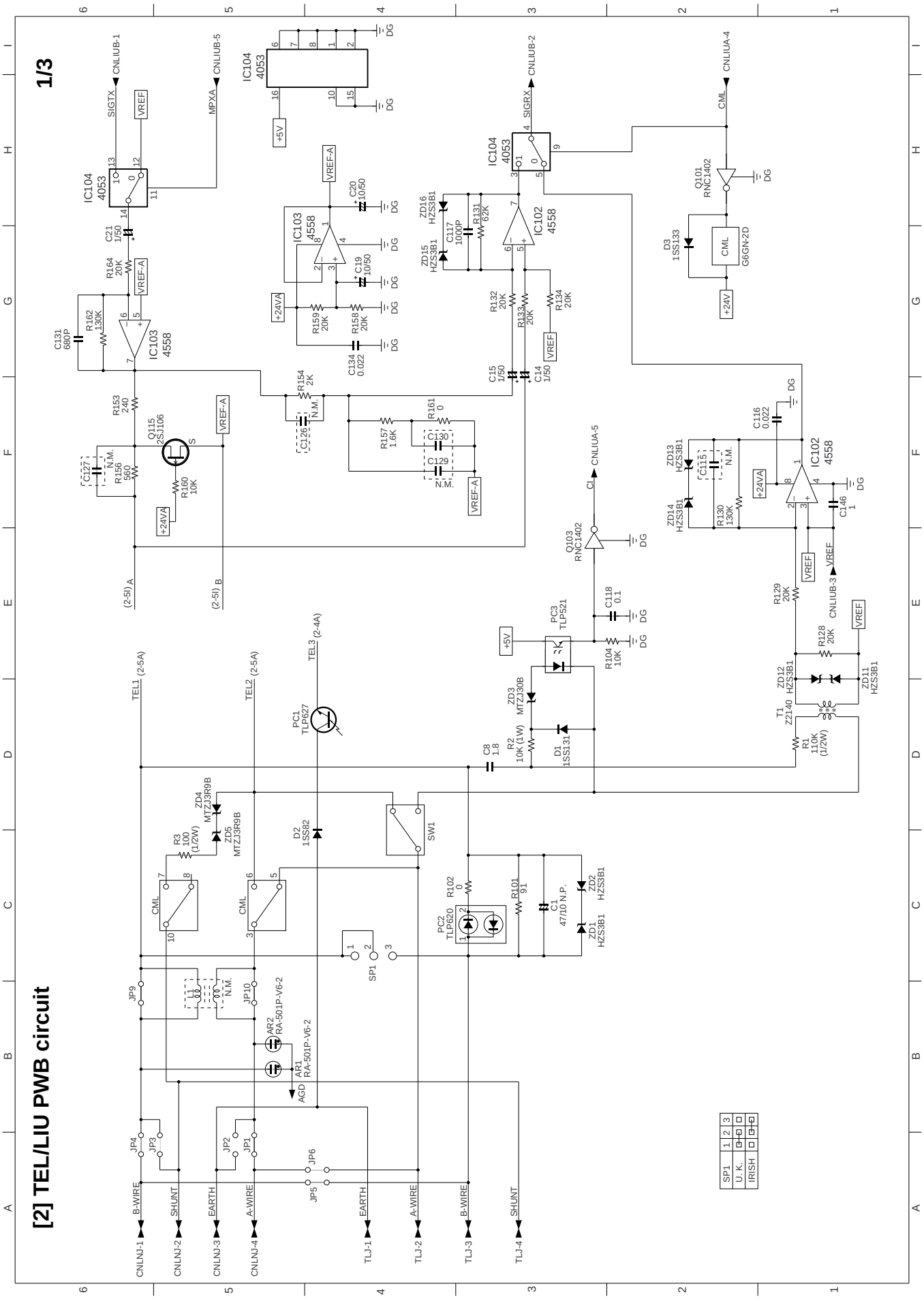

5/5
Other block
Q100 2SC2412KR
CE2 (1-3G)(1-4G)
RESET (2-1G)(3-2A)
R132 4.7K
R131 10K
R109 1K
IC100 PST591C
VOUT
VCC
GND
M. R
C118 1
+5V
DG
IC11 NJM2903
ORGSNS (2-4A)
C169 1000P
C199 0.1
R249 3.3K
R248 5.6K
C180 0.1
R245 33K
C179 2200P
R246 270
CNPN-9
PSNS/ORGSNS (2-3A)
R185 270
R247 270
CNLIUB-4
FRSNS (2-4A)
C191 2200P
C145 2200P
CNPN-10
PSNS (2-4A)
R100 270
C100 0.1
CNPS-1
CNPS-2
IC11 2903
SPOUT
CNLIUA-8
VOLA (3-1E)
VOLB (3-1E)
VOLC (3-1E)
VOLD (3-1E)
R149 270
R173 270
R170 270
R147 270
C127 1000P
C128 1000P
C137 1000P
C136 1000P
R253 390K
R228 5.6K
R244 10K
R243 33K
R242 130K
IC10 4066
C178 0.1
C176 0.1
IC9 4066
R213 3K
C155 0.01
R230 3K
C154 4700P
R212 10K
BZOUT (2-1P)
SIGRX (3-3H)
VOLCTL (2-1E)
R231 10K
Q106 RNC1402
C177 1000P
VBT
C103 0.1
D102 DAP202K
D101 1SS355
D100 1SS355
R102 5.6K
R105 4.7K
R104 4.7K
R103 4.7K
C207 0.1
C10 22/50
BAT1 CR2032
CNLIUA-1
CNLIUA-2
CNLIUA-3
+24V
+24VA
MG
C206 0.1
C9 22/50
C8 22/50
FL1 10
C190 N.M.
R51 N.M.
CNPW-1
CNPW-2
CNPW-3
CNPW-5
CNPW-6
CNPW-7

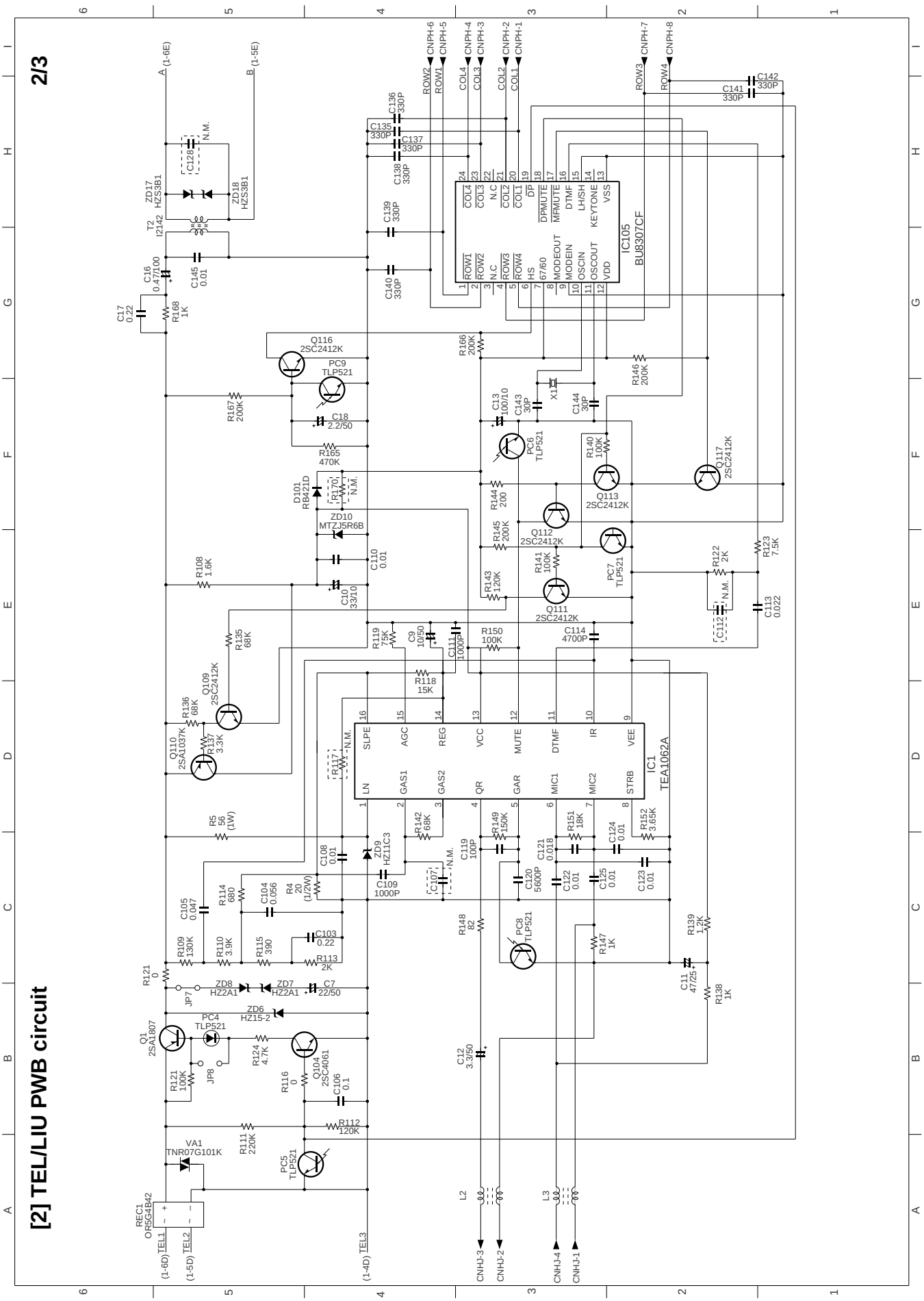
Control PWB parts layout (Top side)

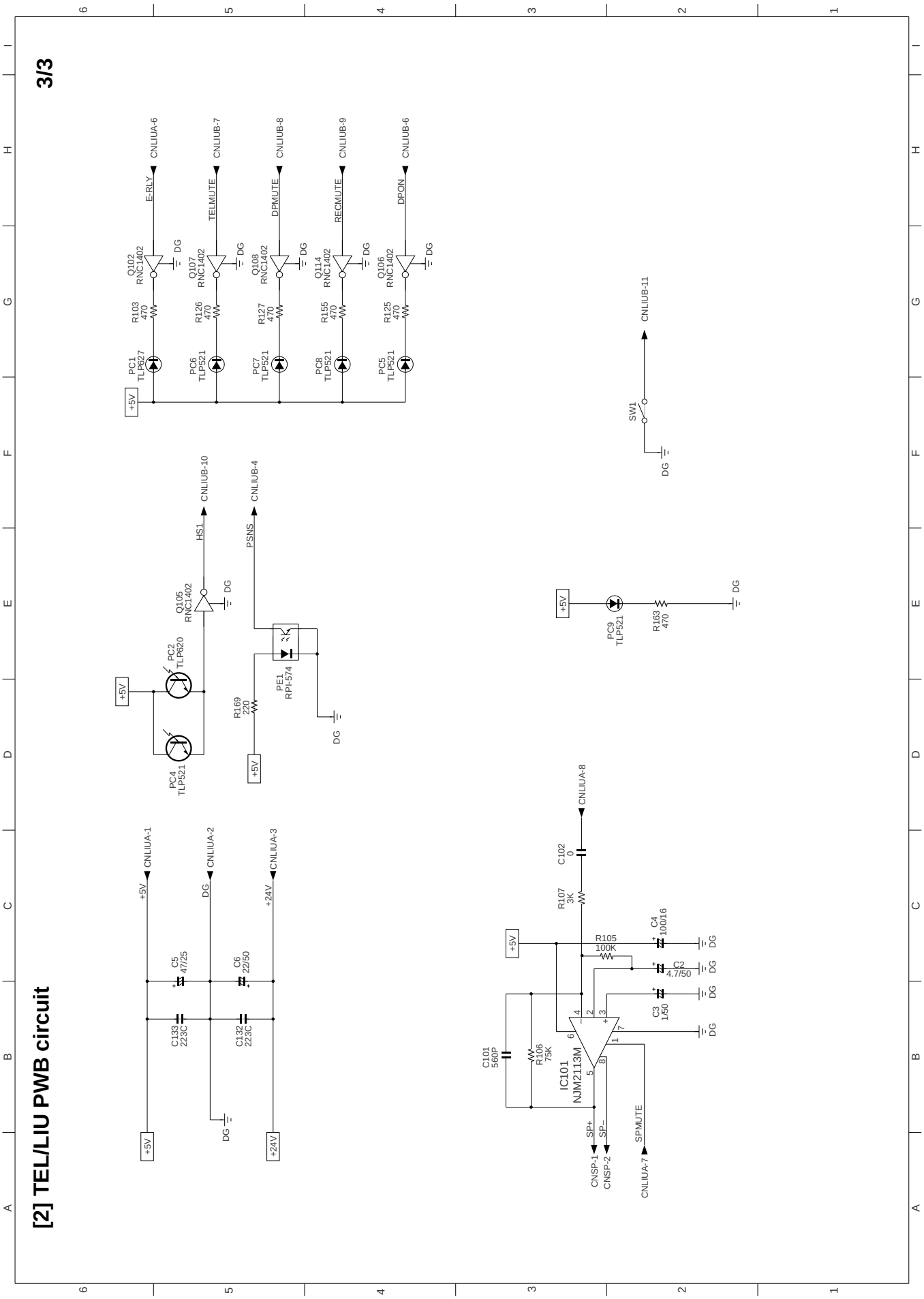


Control PWB parts layout (Bottom side)

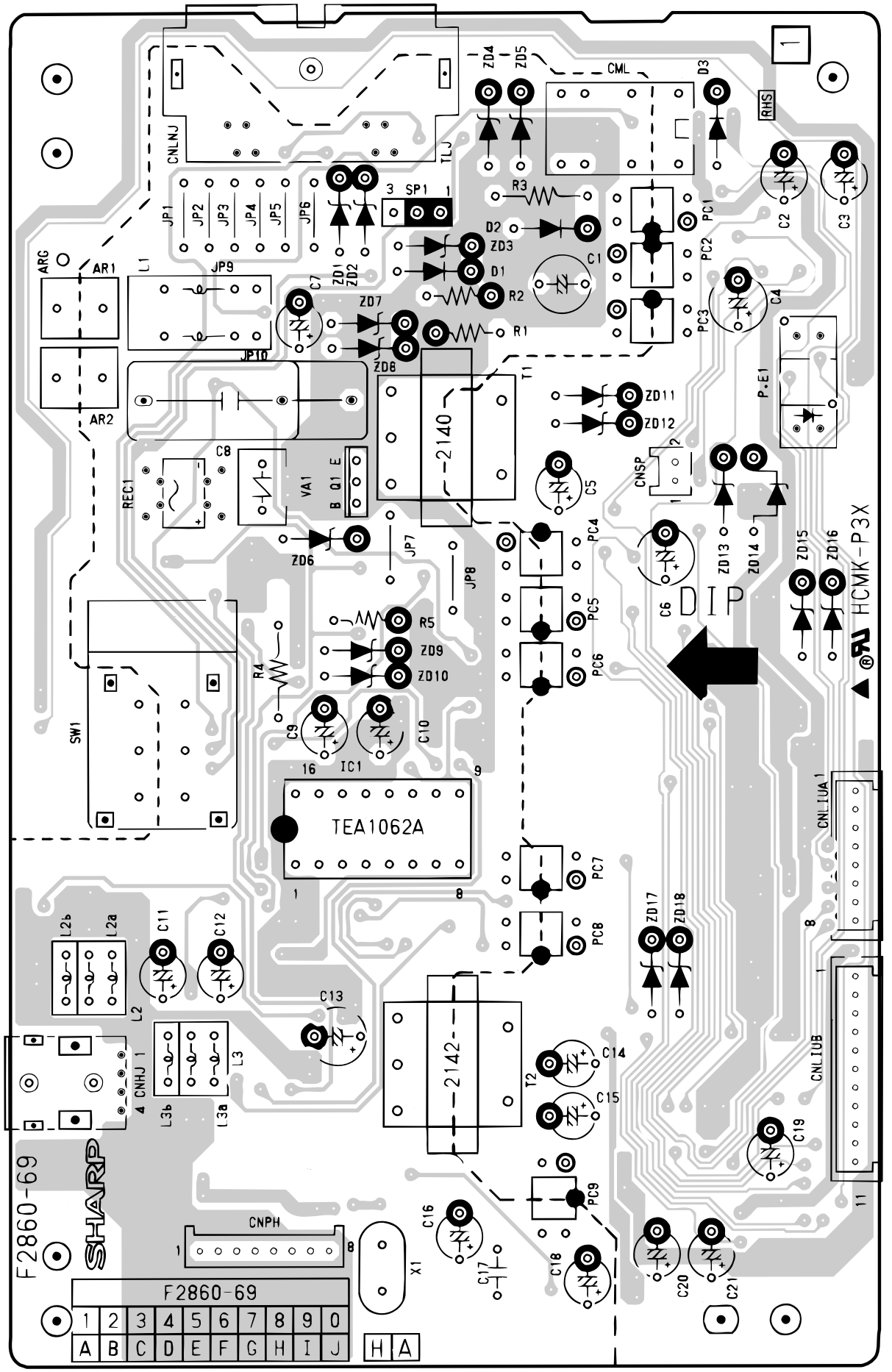



[2] TEL/LIU PWB circuit
1/3
CNLIUB-1
CNLIUB-5
CNLIUB-2
CNLIUA-4
CNLIUA-5
CNLIUB-3
SIGTX
SIGRX
MPXA
VREF
VREF-A
+5V
+24VA
+24V
DG
CML
IC104 4053
IC103 4558
IC102 4558
Q115 2SJ106
Q103 RNC1402
Q101 RNC1402
PC1 TLP627
PC2 TLP620
PC3 TLP521
SW1
SP1
AR1 RA-501P-V6-2
AR2 RA-501P-V6-2
AGD
T1 Z2140
D1 1SS131
D2 1SS82
D3 1SS133
G6GN-2D
ZD1 HZS3B1
ZD2 HZS3B1
ZD3 MTZJ30B
ZD4 MTZJ3R9B
ZD5 MTZJ3R9B
ZD11 HZS3B1
ZD12 HZS3B1
ZD13 HZS3B1
ZD14 HZS3B1
ZD15 HZS3B1
ZD16 HZS3B1
R1 110K (1/2W)
R2 10K (1W)
R3 100 (1/2W)
R101 91
R102 0
R104 10K
R128 20K
R129 20K
R130 130K
R131 62K
R132 20K
R133 20K
R134 20K
R153 240
R154 2K
R156 560
R157 1.6K
R158 20K
R159 20K
R160 10K
R161 0
R162 130K
R164 20K
C1 47/10 N.P.
C8 1.8
C14 1/50
C15 1/50
C19 10/50
C20 10/50
C21 1/50
C115 N.M.
C116 0.022
C117 1000P
C118 0.1
C126 N.M.
C127 N.M.
C129 N.M.
C130 N.M.
C131 680P
C134 0.022
C146 1
JP1
JP2
JP3
JP4
JP5
JP6
JP9
JP10
B-WIRE
SHUNT
EARTH
A-WIRE
CNLNJ-1
CNLNJ-2
CNLNJ-3
CNLNJ-4
TLJ-1
TLJ-2
TLJ-3
TLJ-4
TEL1 (2-5A)
TEL2 (2-5A)
TEL3 (2-4A)
(2-5I) A
(2-5I) B
SP1
U.K.
IRISH

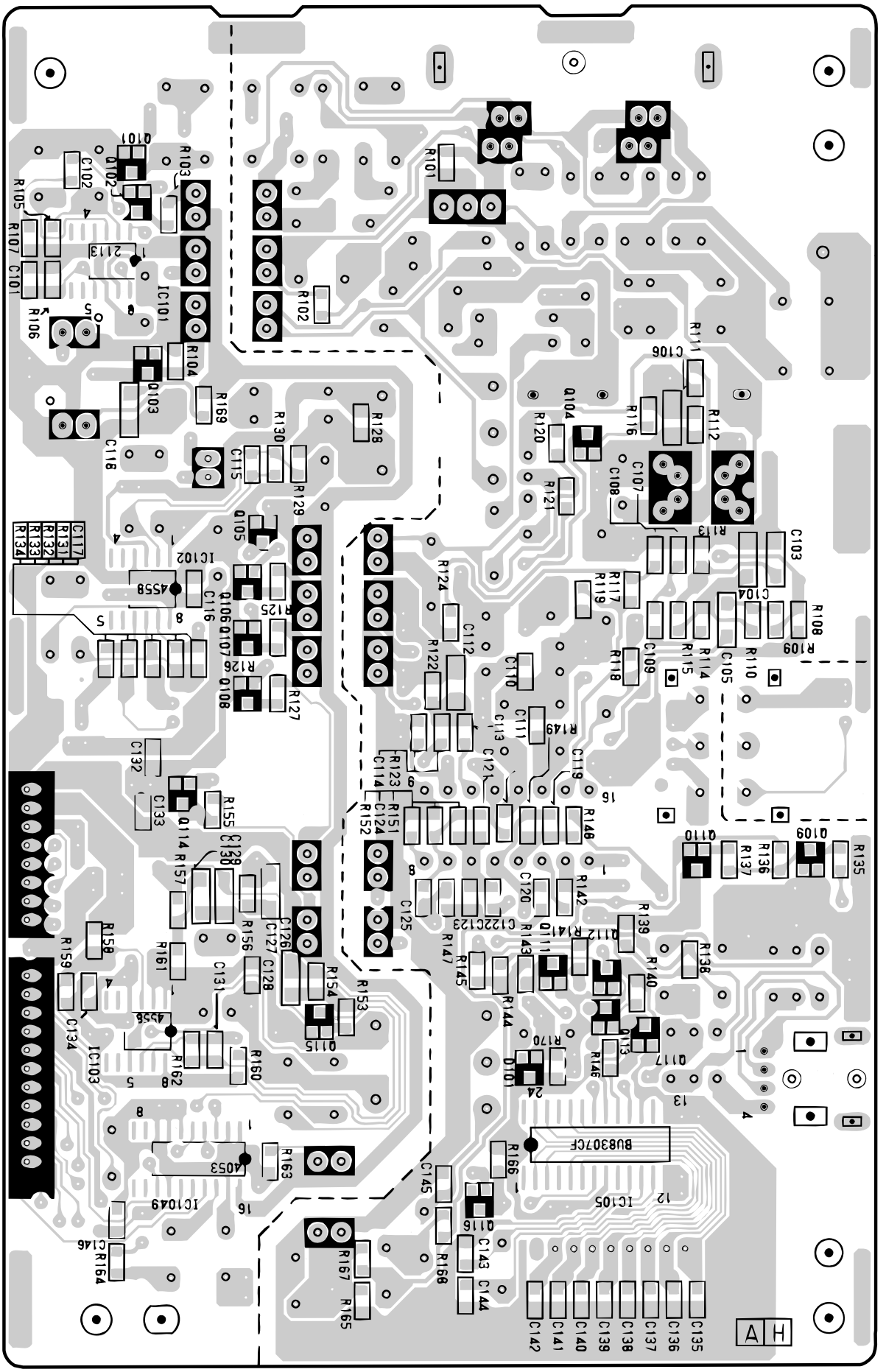

2/3
[2] TEL/LIU PWB circuit
IC105
BU8307CF
IC1
TEA1062A
REC1
ORSG4B42
VA1
TNR07G101K
X1
JP7
JP8
TEL1
TEL2
TEL3
CNPH-1
CNPH-2
CNPH-3
CNPH-4
CNPH-5
CNPH-6
CNPH-7
CNPH-8
CNHJ-1
CNHJ-2
CNHJ-3
CNHJ-4


3/3
[2] TEL/LIU PWB circuit
CNLIUA-6
E-RLY
Q102 RNC1402
R103 470
PC1 TLP627
CNLIUA-7
TELMUTE
Q107 RNC1402
R126 470
PC6 TLP521
CNLIUB-8
DPMUTE
Q108 RNC1402
R127 470
PC7 TLP521
CNLIUB-9
RECMUTE
Q114 RNC1402
R155 470
PC8 TLP521
CNLIUB-6
DPON
Q106 RNC1402
R125 470
PC5 TLP521
+5V
DG
CNLIUB-11
SW1
CNLIUB-10
HS1
Q105 RNC1402
PC2 TLP620
PC4 TLP521
CNLIUB-4
PSNS
PE1 RPI-574
R169 220
PC9 TLP521
R163 470
CNLIUA-1
CNLIUA-2
CNLIUA-3
+24V
C5 47/25
C6 22/50
C133 223C
C132 223C
CNLIUA-8
C102 0
R107 3K
R105 100K
C4 100/16
C2 4.7/50
C3 1/50
C101 560P
R106 75K
IC101 NJM2113M
SP+
SP−
SPMUTE
CNSP-1
CNSP-2
CNLIUA-7

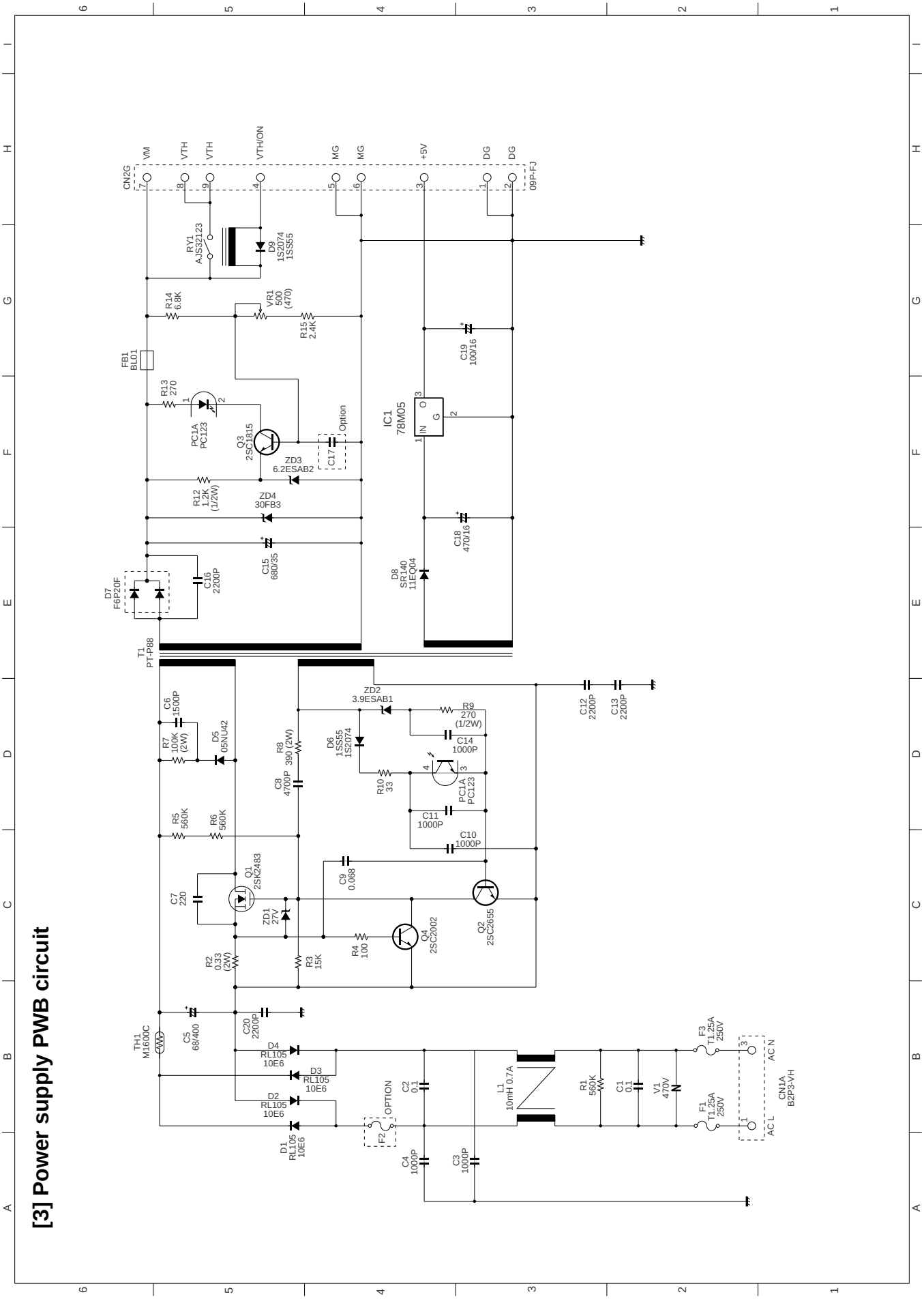
TEL/LIU PWB parts layout (Top side)



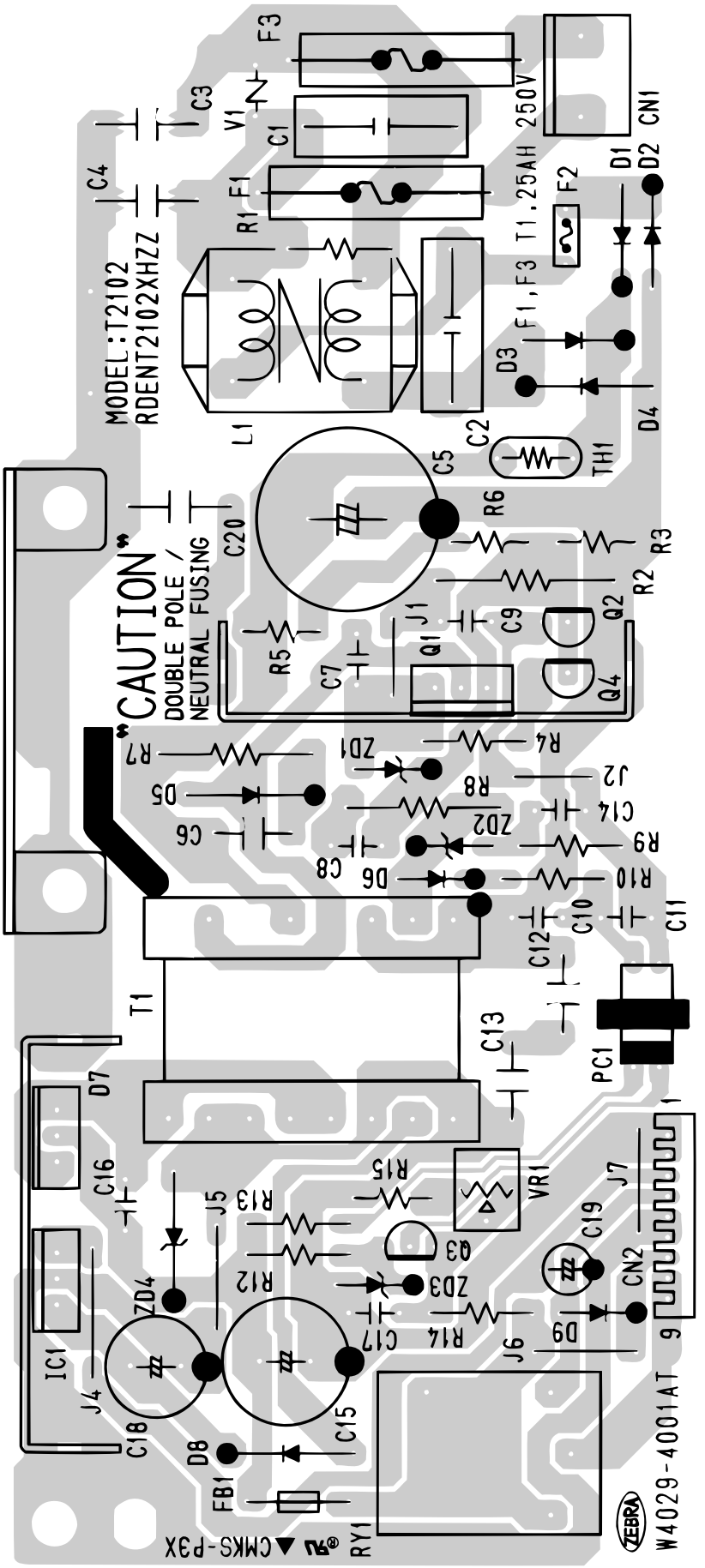
TEL/LIU PWB parts layout (Bottom side)

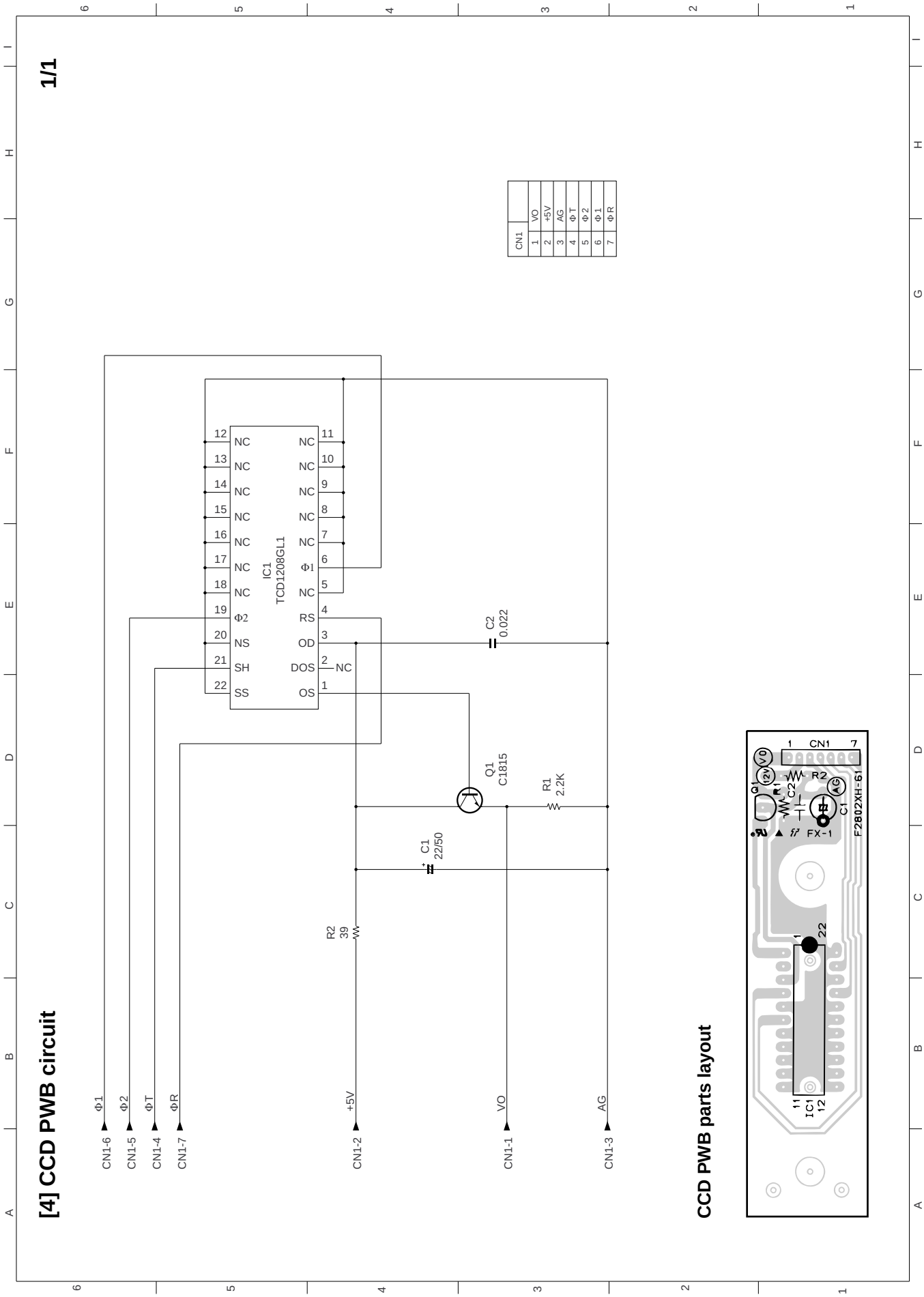


[3] Power supply PWB circuit

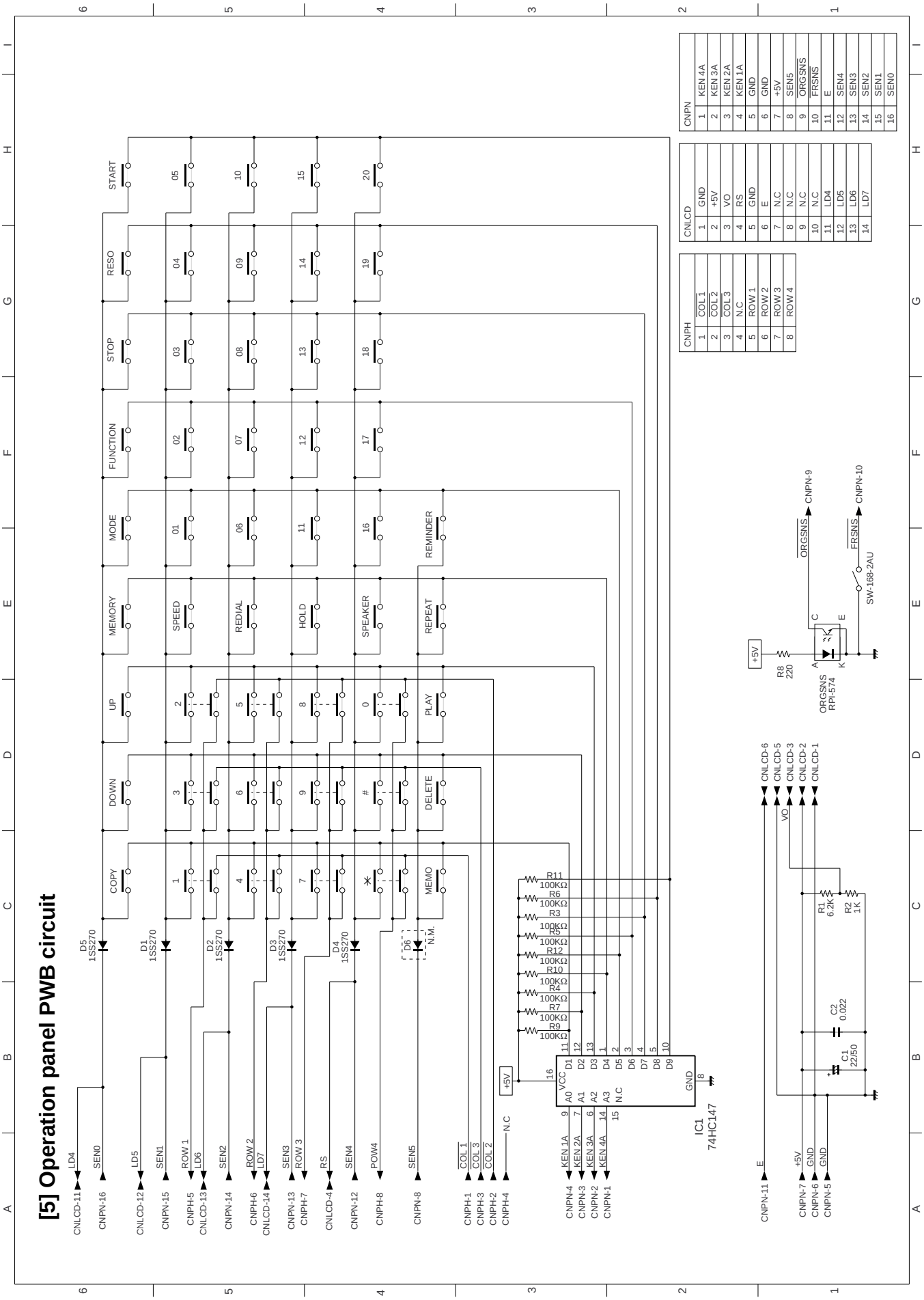


Power supply PWB parts layout

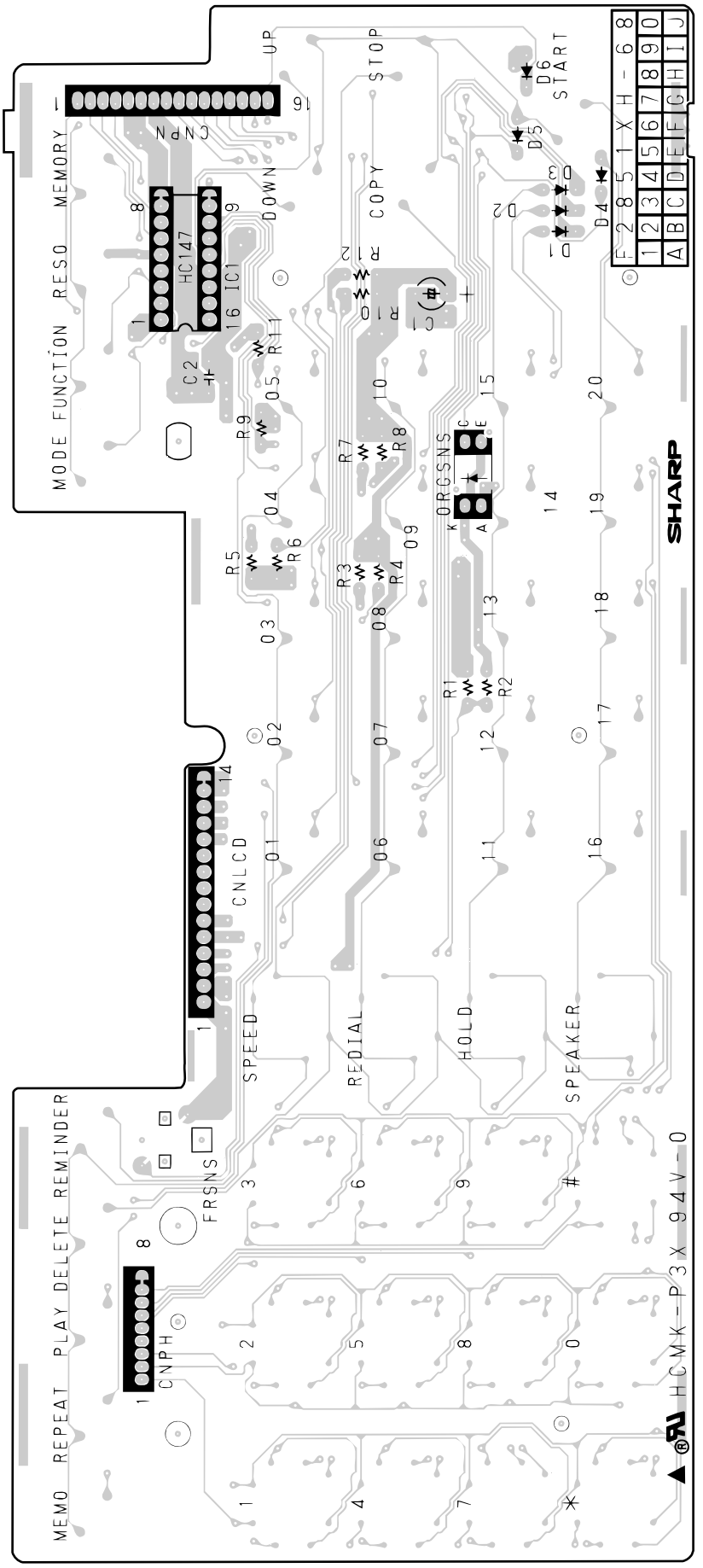



1/1
[4] CCD PWB circuit
CN1
1 VO
2 +5V
3 AG
4 ΦT
5 Φ2
6 Φ1
7 ΦR
IC1
TCD1208GL1
12 NC
13 NC
14 NC
15 NC
16 NC
17 NC
18 NC
19 Φ2
20 NS
21 SH
22 SS
11 NC
10 NC
9 NC
8 NC
7 NC
6 Φ1
5 NC
4 RS
3 OD
2 DOS NC
1 OS
C2 0.022
Q1 C1815
R1 2.2K
C1 22/50
R2 39
Φ1
Φ2
ΦT
ΦR
+5V
VO
AG
CN1-6
CN1-5
CN1-4
CN1-7
CN1-2
CN1-1
CN1-3
CCD PWB parts layout
F2802XH-61
FX-1

[5] Operation panel PWB circuit

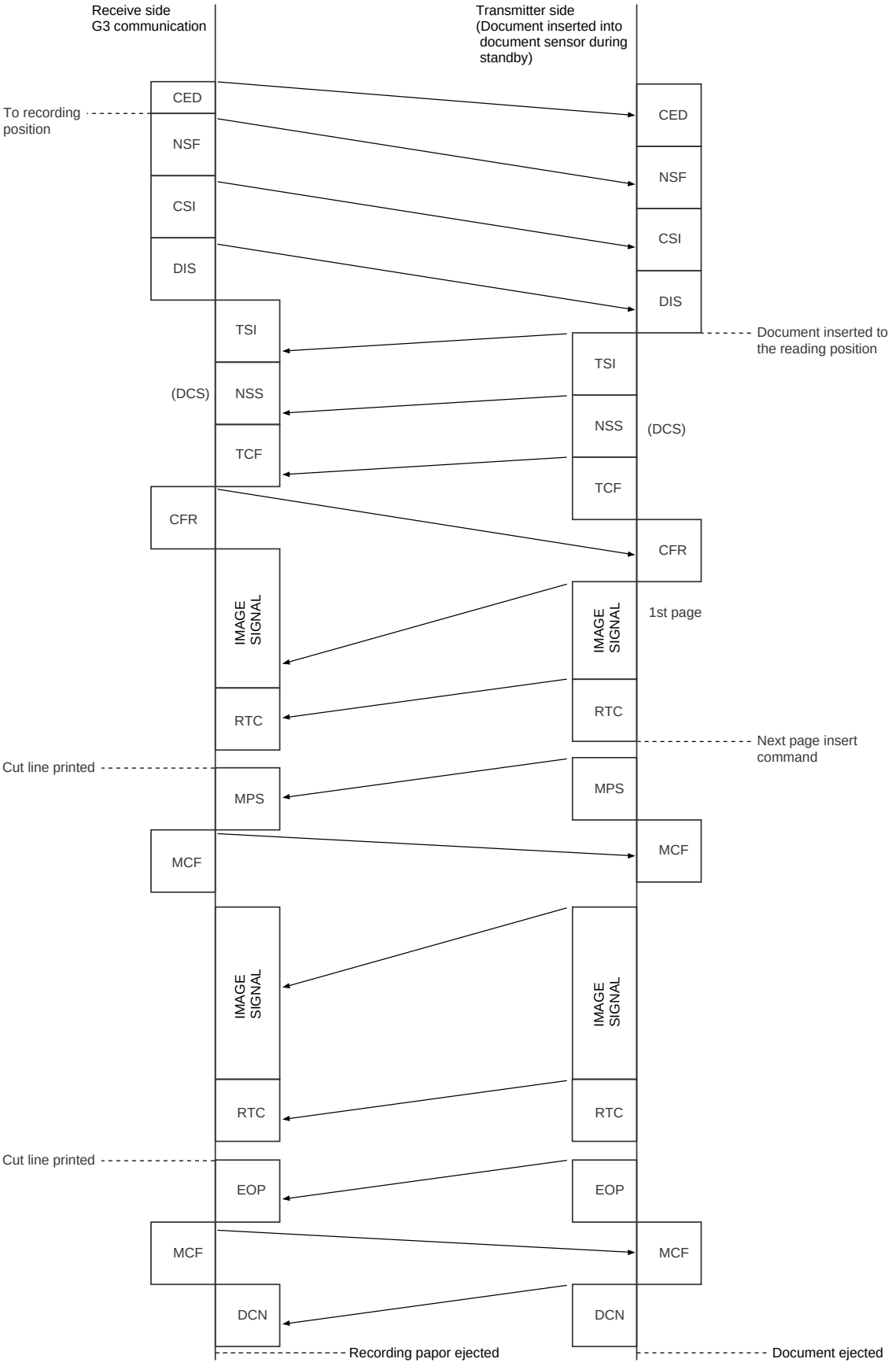


Operation panel PWB parts layout

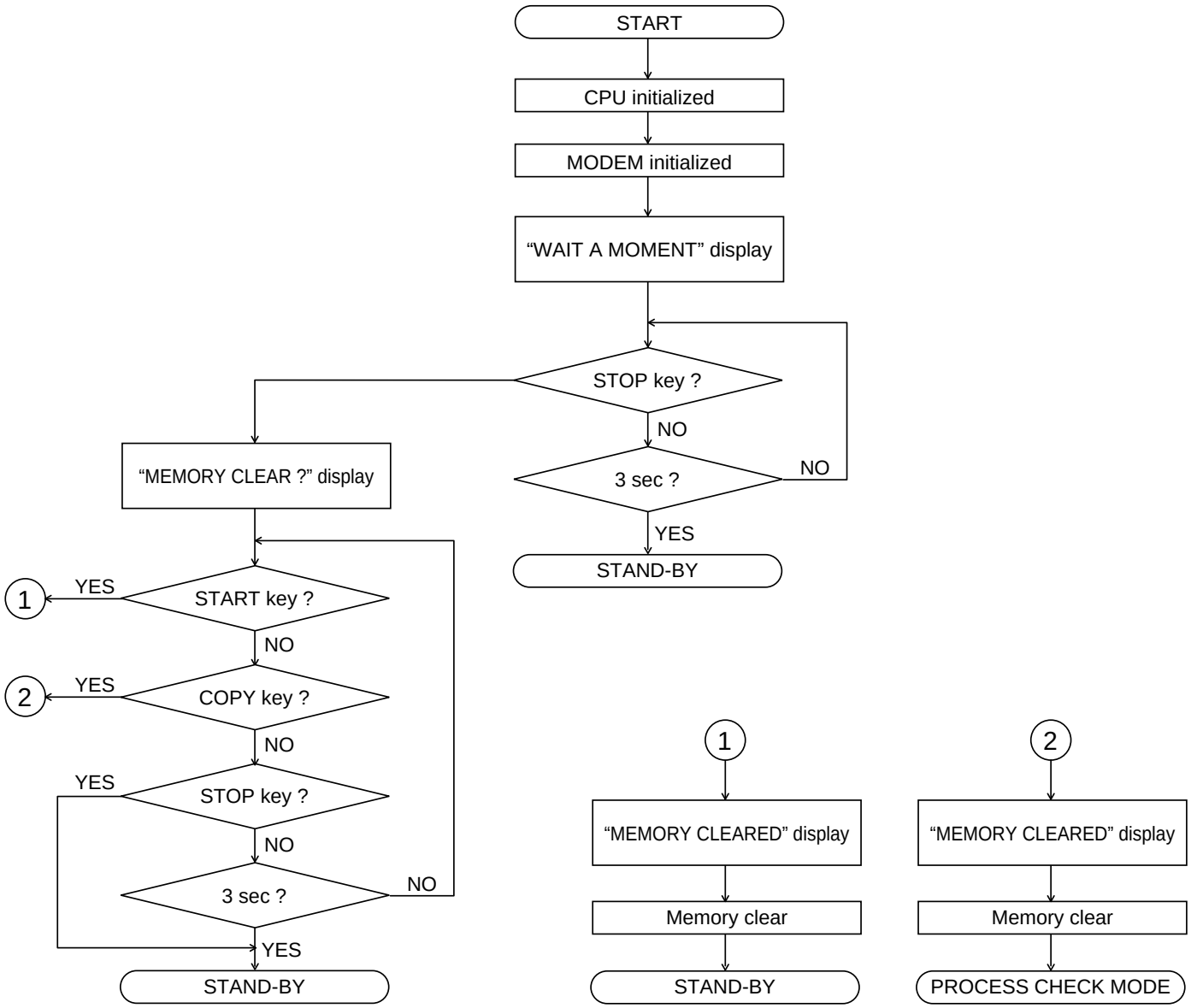


CHAPTER 7. OPERATION FLOWCHART

[1] Protocol



[2] Power on sequence



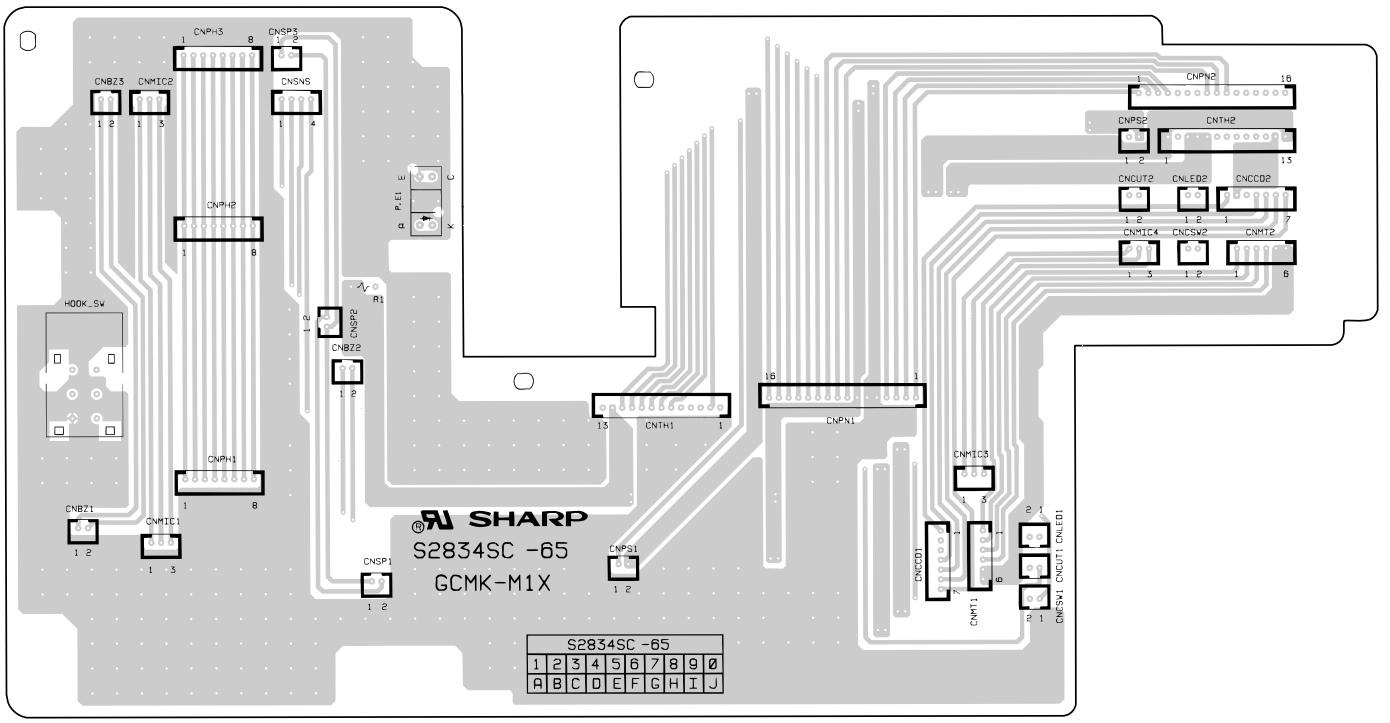
CHAPTER 8. OTHERS

[1] Service tools

1. List

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	CPWBS2834SC01	Extension board unit	1	BZ
2	UKOGM2028SCZZ	Optical adjustment jig	1	BE

Extension board unit

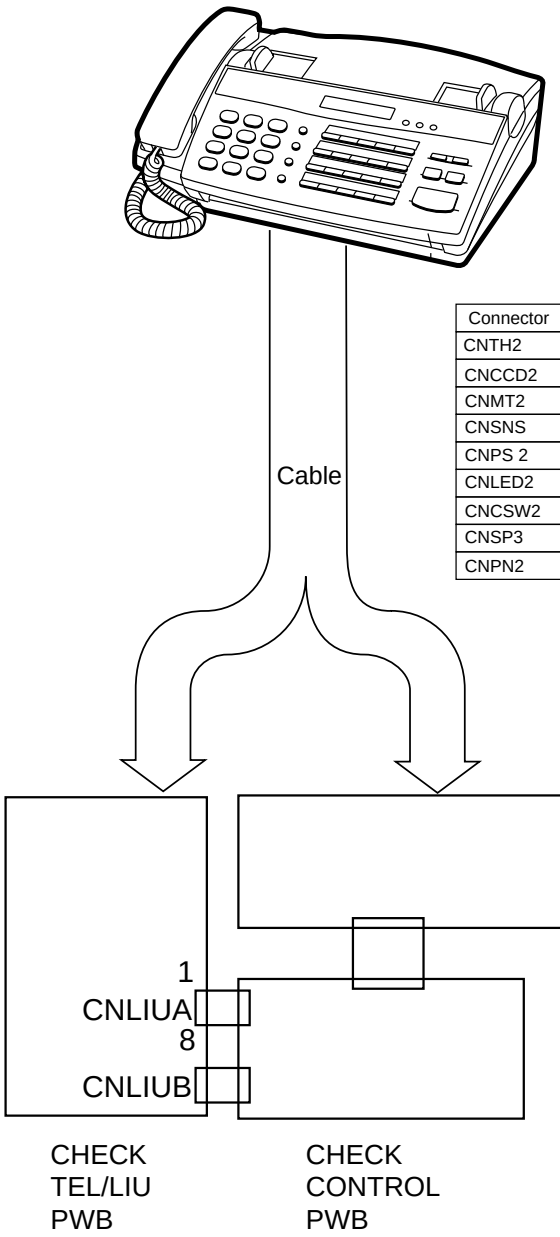


NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	QCNW–3872SCZZ	CABLE (CNTH2)	1	AP
2	QCNW–4571SCZZ	CABLE (CNSNS)	1	AX
3	QCNW–4575SCZZ	CABLE (CNCSW2)	1	AG
4	QCNW–4574SCZZ	CABLE (CNLED2)	1	AG
5	QCNW–4570SCZZ	CABLE (CNMT2)	1	AG
6	QCNW–4573SCZZ	CABLE (CNPS2)	1	AF
7	QCNW–4643SCZZ	CABLE (CNCUT2)	1	AF
8	QCNW–4569SCZZ	CABLE (CNCCD2)	1	AG
9	QCNW–4577SCZZ	CABLE (CNSP2)	1	AF
10	QCNCM7014SC0G	CONNECTOR (CNCCD1, CNCCD2)	2	AB
11	QCNCM7014SC0B	CONNECTOR (CNLED1, CNLED2)	4	AD
12	QCNCM2401SC0B	CONNECTOR (CNCUT1, CNCUT2)	2	AA
13	QCNCM7014SC0F	CONNECTOR (CNMT1, CNMT2)	2	AB
14	QCNCM7014SC1F	CONNECTOR (CNPN1, CNPN3)	2	AD
15	QCNCM7014SC0B	CONNECTOR (CNPS1, CNPS2)	2	AB
16	QCNCM7014SC0D	CONNECTOR (CNSNS)	1	AB
17	QCNCM2401SC0B	CONNECTOR (CNSP2, CNSP3)	2	AA
18	QCNCM7014SC1C	CONNECTOR (CNTH1, CNTH2)	2	AC
19	QSW–Z2206SCZZ	HOOK SWITCH (HSW)	1	AH
20	VHPRPi–574///	(PSNS)	1	AE
21	QPWBS2758SCZZ	EXTENSION BOARD (WITHOUT PARTS)	1	–
22	VRD–RC2EY221J	RESISTOR (1/4W 220Ω ±5%) (R1)	1	AA
23	QCNCM2442SC0B	CONNECTOR (CNCSW1, CNCSW2)	2	AB
24	QCNW–4583SCZZ	CABLE (CNPN)	1	AQ

2. Description

2-1. Extension board unit

1. Remove the TEL/LIU PWB, control PWB and Power Supply PWB from this unit, and mount the extension board unit instead.
   - Before connecting the wiring to the extension board unit, set the test PWB switches to the fixed position.
2. The setting is as follows.



Connector	Cable
CNTH2	QCNW-3872SCZZ
CNCCD2	QCNW-4569SCZZ
CNMT2	QCNW-4570SCZZ
CNSNS	QCNW-4571SCZZ
CNPS 2	QCNW-4573SCZZ
CNLED2	QCNW-4574SCZZ
CNCSW2	QCNW-4575SCZZ
CNSP3	QCNW-4577SCZZ
CNPN2	QCNW-4583SCZZ

Cable color	CNSNS	Connected to (PWB)
1. Black	$\overline{\text{PSNS}}$	CNLIUB-6
2. Brown	RHS	CNLIUA-7
3. Red	HS1	N.C.
4. Orange	HS2	N.C.

The recording paper sensor ($\overline{\text{PSNS}}$) and the hook switch are operated by OR of the mechanical unit switch and the test PWB switch. When performing installation in the machine unit, set the test PWB switches to the fixed position.

	Mechanical unit	PWB to be tested
	Actual operation with mechanical unit	
Recording paper sensor	ON/OFF operation	ON (Photo interrupter is interrupted.)
Hook SW	ON/OFF operation	ON
	PWB sensor check	
Recording paper sensor	ON	ON/OFF operation
Hook SW	ON	ON/OFF operation

2-2. Scan optical system adjustment

(1) Outline

The adjustment procedures of the scan optical system are described below:

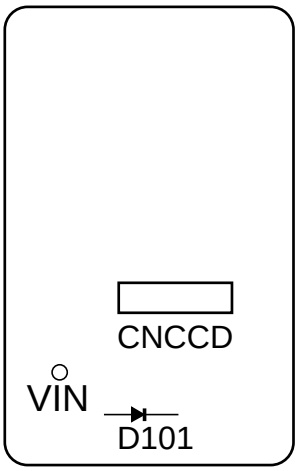
(2) Adjustment procedures

① Switch off the machine and disconnect the AC power cable from the wall socket.

② Fully open the upper cabinet, remove the fixing screws of the recording paper tray and remove the recording paper tray. In order to perform a focus adjustment, remove the optical system unit from the frame.

③ Disconnect the main pwb from the TEL/LIU pwb.

④ Connect your oscilloscope channel 1 to the VIN signal and channel 2 of your oscilloscope to ϕT signal (Refer Pin 4 of connector CNCCD on the main pwb). Connect the earth clips of either probe to AG ground as shown. Set the trigger to channel 2.



VID CNCCD-1
ΦT CNCCD-4
VG CNCCD-3

⑤ Re-connect the main pwb to the TEL/LIU pwb and connect these circuit boards to the connectors on the chassis.

⑥ Re-assemble up to and including the recording paper tray to the main chassis and close upper cabinet.

⑦ Plug the AC power cable into the wall outlet and turn the fax machine on.

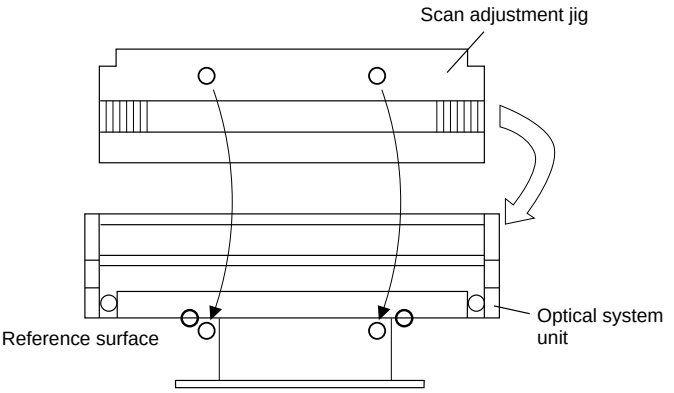
⑧ Insert a test chart in the document hopper and execute the CCD Adjust Mode diagnostic. Press the START key to enable local copy until approximately one fifth of the page has been copied, then press the STOP key to enable the CPU wait state.

⑨ Fully open the upper cabinet and remove the recording paper tray.

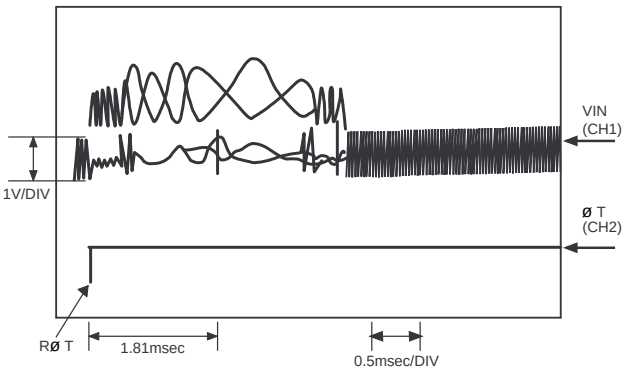
⑩ Install the scan adjustment jig to the optical system unit, so that the pattern surface is on the lower side.

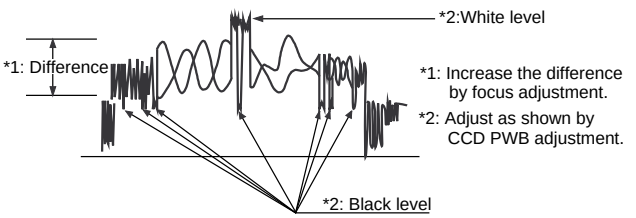
⑪ Fit the pins of the scan adjustment jig to the holes of the optical system frame.

⑫ Lightly loosen the red screws of the CCD pwb and obtain the VID signal waveform in synchronization with ϕT signal waveform. Adjust the CCD pwb positioning to obtain the waveform as shown below.



CCD waveform




*2:White level
*1: Difference
*1: Increase the difference by focus adjustment.
*2: Adjust as shown by CCD PWB adjustment.
*2: Black level

[CCD waveform model]

⑬ After completing the CCD adjustment, tighten the two red screws on the CCD pwb and apply screw locking material to prevent the CCD pwb from moving.

⑭ Assemble the recording paper tray and fixing screws.

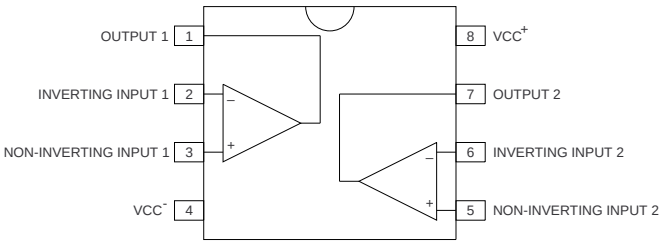
[2] IC signal name

CONTROL P.W.B. UNIT

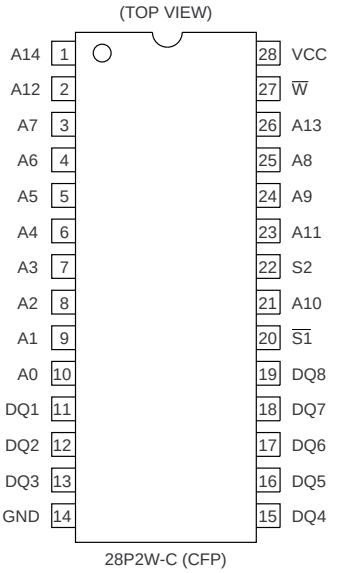
IC5: VHiR96SFELC-1 (R96DFXL)

Refer to the table on p. 5-7.

IC6: VHiNJM4558MF-(NJM4558M)

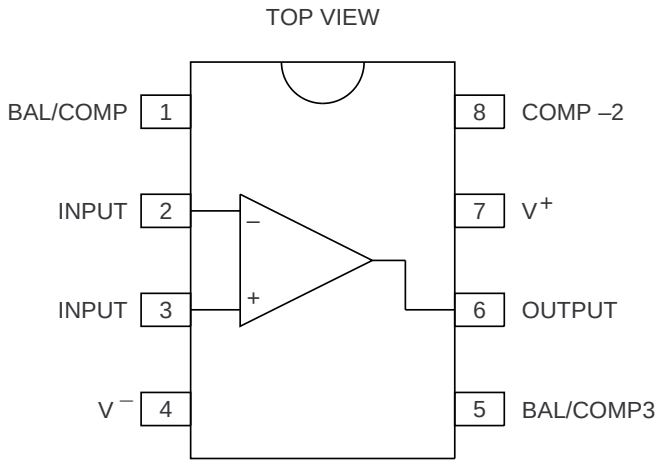


IC5: VHiM5255CF70L (M5M5255CFP)

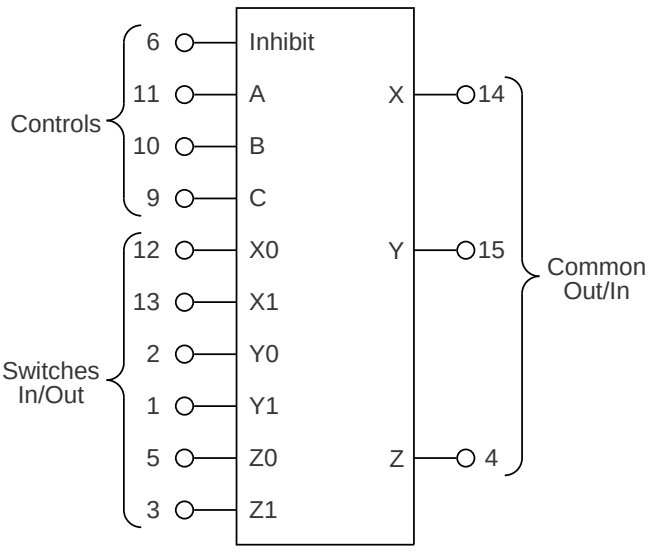


Pin name	Signal
A0~A12	Address input
CE1/CE2	Chip enable
WE	Write enable
OE	Write enable
I/O1~I/O8	Data I/O
VCC	Power source
GND	Ground
N.C.	No connection

IC7: VHiNJM318M/-F (NJM318)

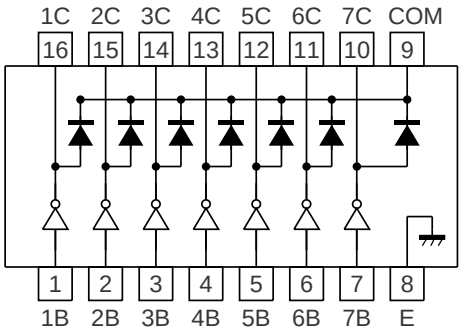


IC12: VHiHEF4053BT1 (HEF4053BT)

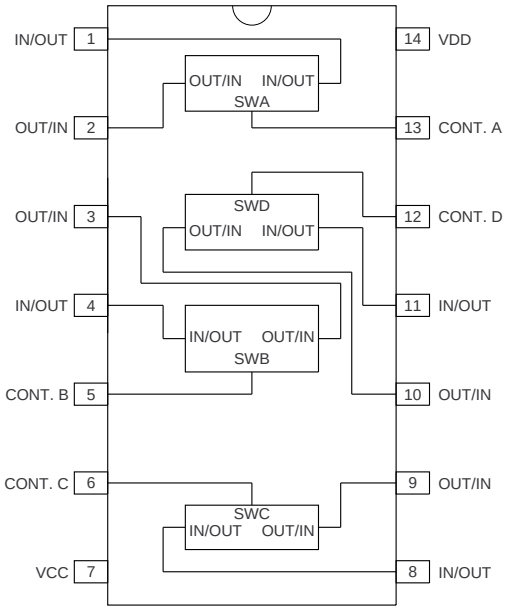


VDD: Pin 16
VSS: Pin 8
VEE: Pin7

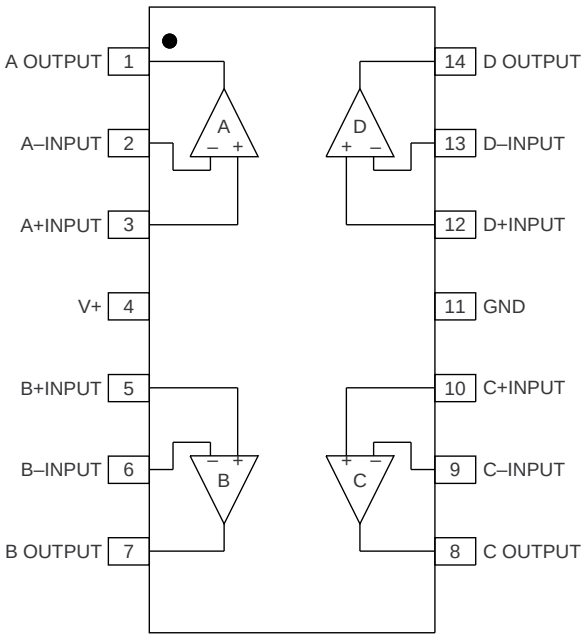
IC11: VHiULN2003AN/ (ULN2003)



IC8: VHiHEF4066BT1 (HEF4066BT)

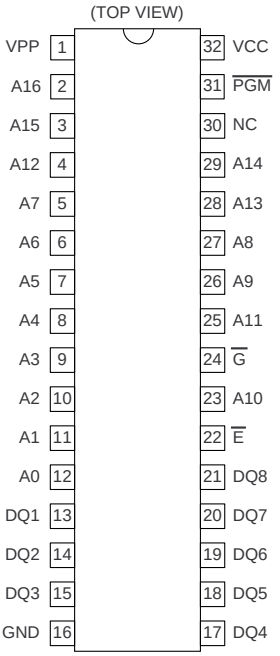


IC4: VHiNJM2902M-1 (NJM2902)



IC2: VHi27C1000PC5

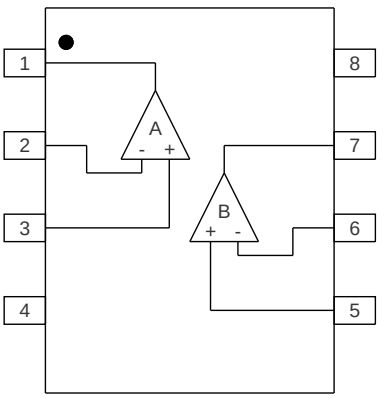
ONE time ROM



Pin name	Signal
A0~A16	Address input
$\overline{E}$	Chip enable
$\overline{G}$	Output enable
GND	Ground
NC	No connection
$\overline{PGM}$	Program
DQ1~DQ8	Data output (Program input)
VCC	+5V power
VPP	+12.5V power (*)

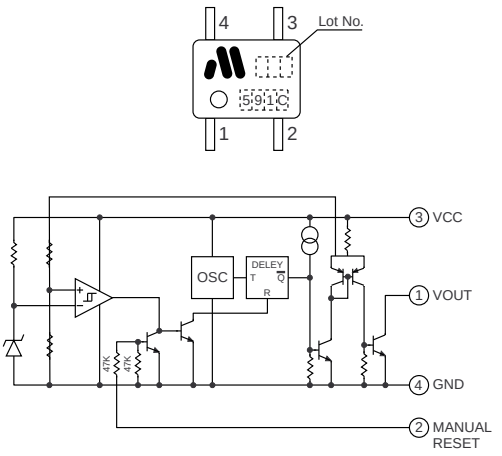
(*) Only in the program mode

IC2: VHiNJM2903M/ (NJM2903)



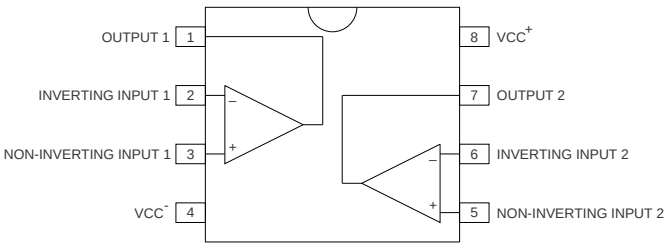
1. A OUTPUT
2. A- INPUT
3. A+ INPUT
4. V-
5. B+ INPUT
6. B- INPUT
7. B OUTPUT
8. V+

IC104: VHiPST591CMT1 (PST591C)



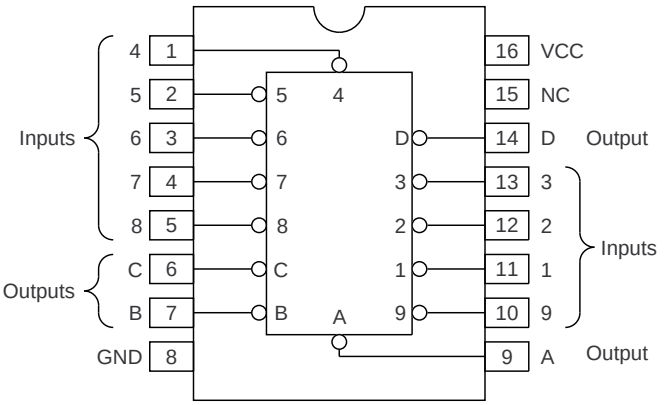
TEL/LIU P.W.B. UNIT

IC2: VHiNJM2902D-1 (NJM2902D)

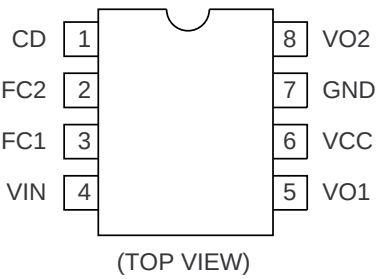


PANEL PWB UNIT

IC1: VHi74HC147D-1 (74HC147D)



IC1: VHiNJM2113D (NJM2113D)



M E M O

SHARP PARTS GUIDE

MODEL UX-177

CONTENTS

1 Cabinet, etc.

2 Upper cabinet

3 Document guide upper

4 Drive unit

5 Optical unit

6 Packing material & Accessories

7 Control PWB unit

8 TEL-Liu PWB unit

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10 CCD PWB unit

50 Hardware parts

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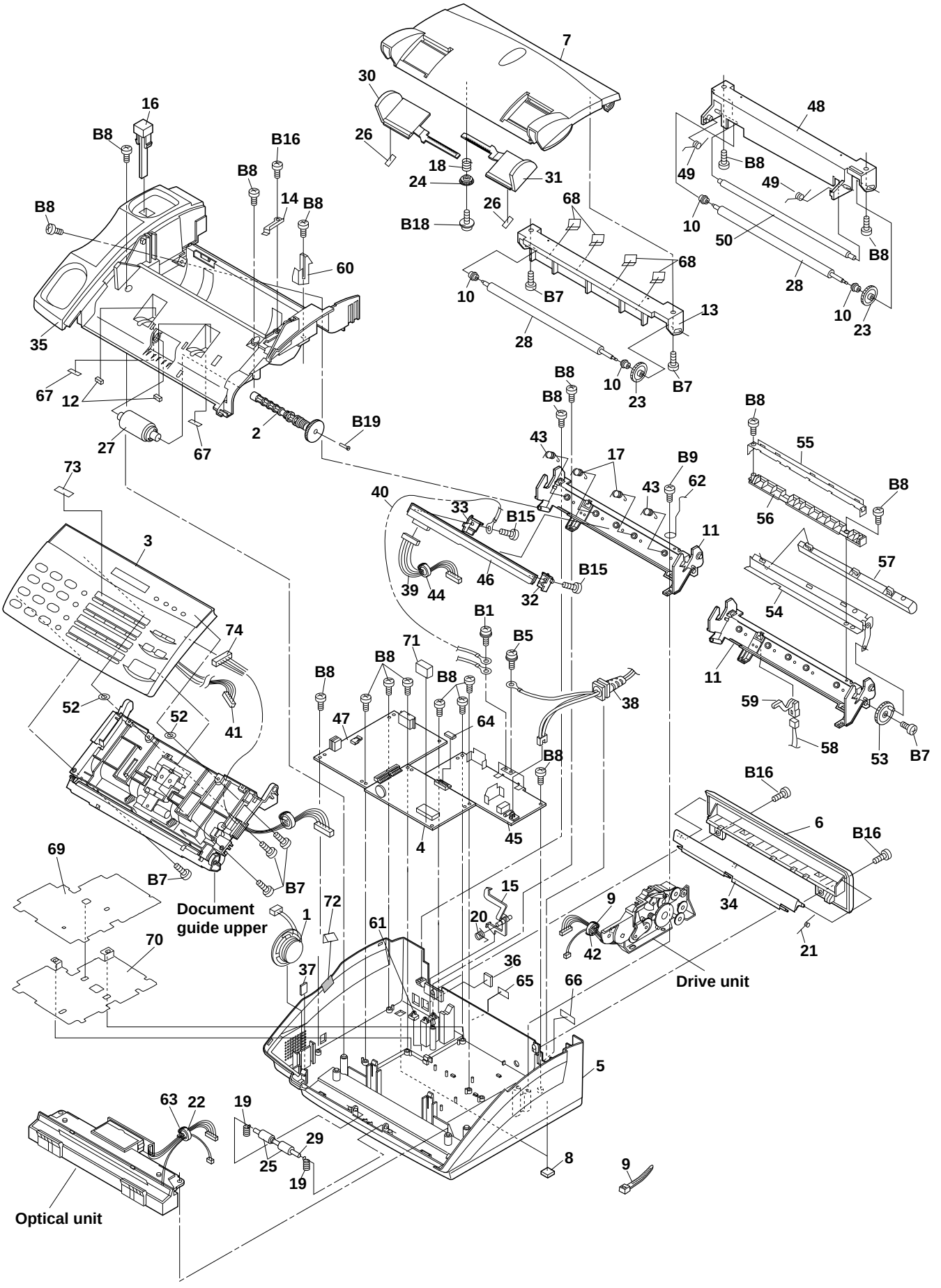
Because parts marked with "⚠" is indispensable for the machine safety maintenance and operation, it must be replaced with the parts specific to the product specification.

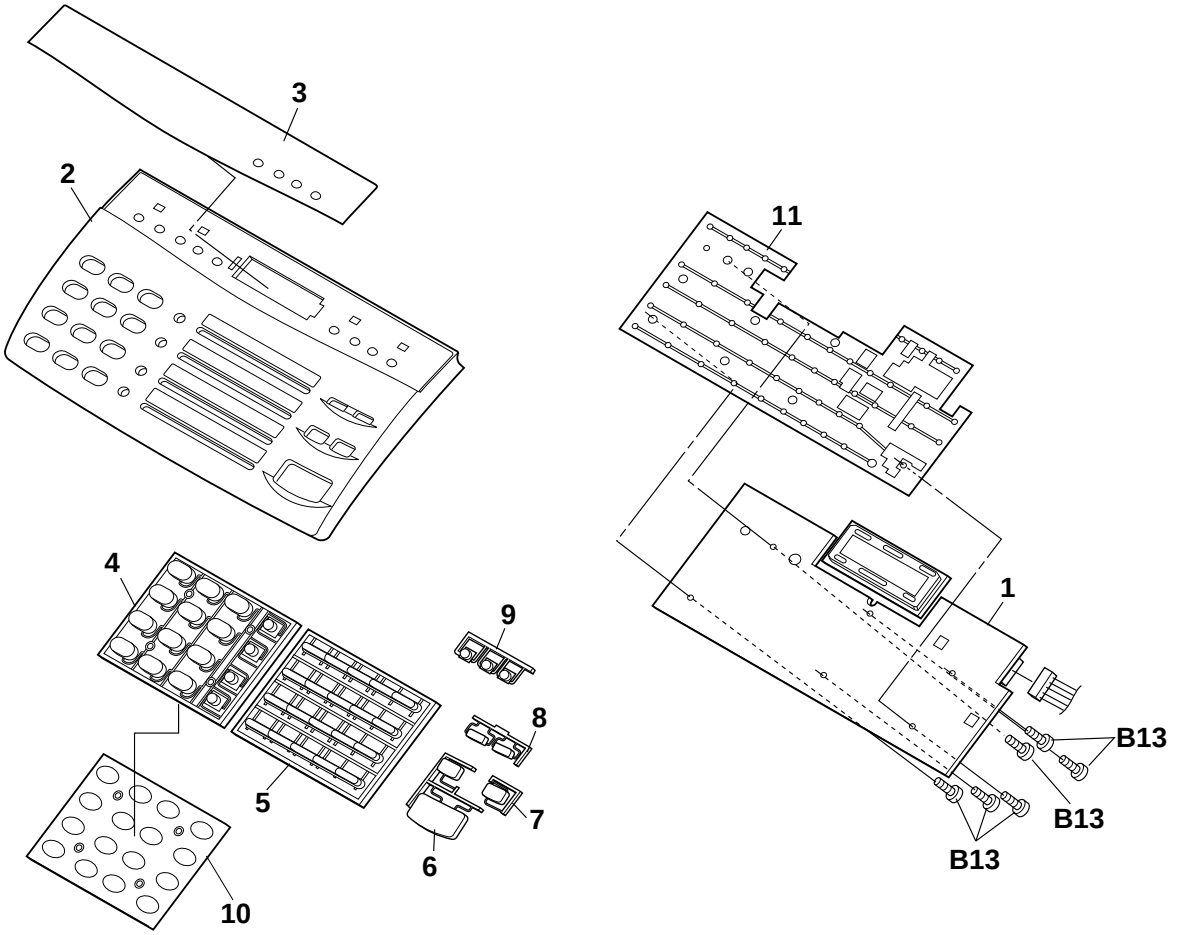
1 Cabinet, etc.



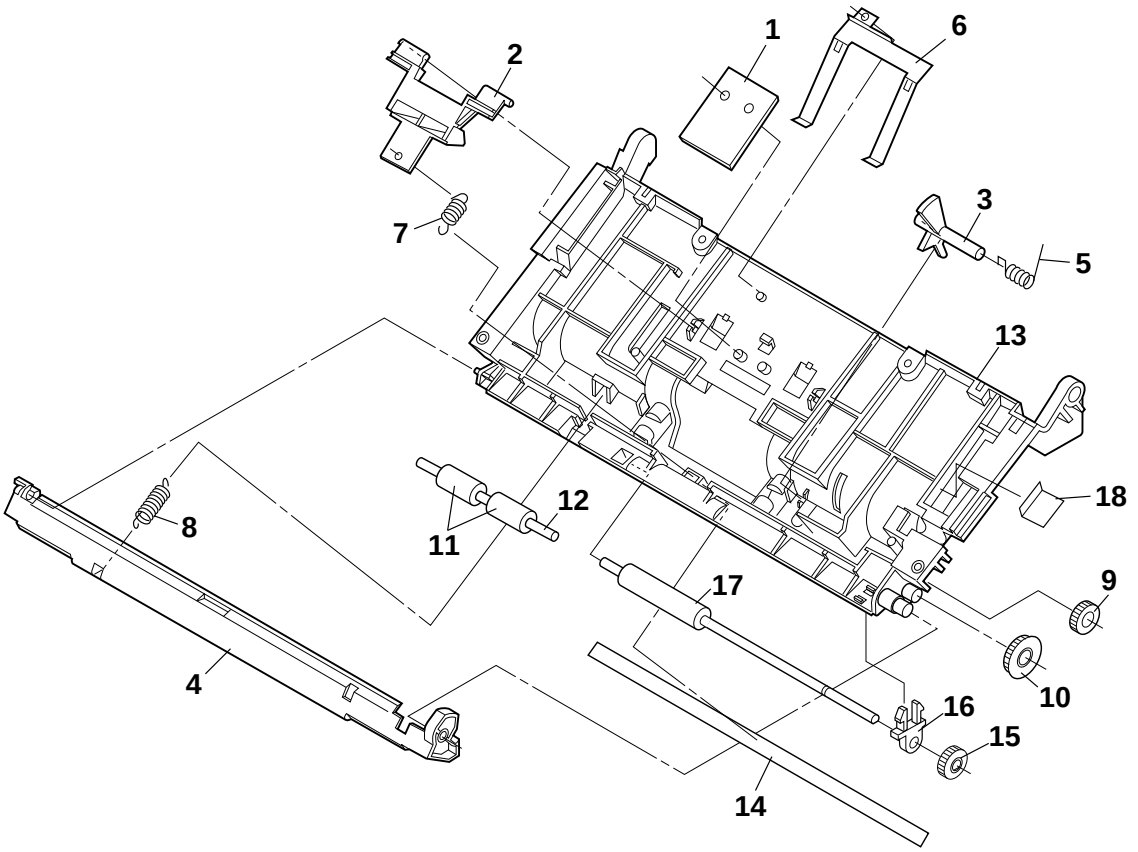
1 Cabinet, etc.

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	CCNW-4587XH01	AL	N	C	Speaker ass'y
2	CGERH2306XH02	AN	N	C	Paper feed roller gear ass'y
3	CPNLH2371XH18	BM	N	D	Upper cabinet ass'y
4	DCEKC787HXHZZ	BY	N	E	Control PWB unit(Within ROM)
5	GCABB2277XHPA	AV	N	D	Lower cabinet
6	GCOVA2370XHZA	AN	N	C	Rear cover
7	GCOVA2369XHZA	AN	N	D	Recording paper cover
8	GLEGG2063XHZZ	AC	N	C	Rubber leg
9	LBNDJ0002FCZZ	AA		C	Band
10	LBSHP2082XHZZ	AC	N	C	Platen bearing
11	LFRM-2171XHZZ	AL	N	C	Head frame
12	PSPAZ2216XHZZ	AC	N	C	Cussion spacer
13	LPLTP2841XHZZ	AH	N	C	Platen plate
14	LSTPF2046XHZZ	AF	N	C	Panel unit stopper
15	MLEVP2235XHZZ	AD	N	C	Paper sensor lever
16	MLEVP2236XHZA	AE	N	C	Hook switch lever
17	MSPRC2884XHZZ	AC	N	C	Head pressure spring 2
18	MSPRC2832XHZZ	AC	N	C	Hopper spring
19	MSPRC2834XHZZ	AD	N	C	Pinch pressing spring 2
20	MSPRD2849XHZZ	AD	N	C	Paper sensor lever spring
21	MSPRD2874XHZZ	AF	N	C	Paper guide spring
⚠ 22	RCORF2063XHZZ	AF		B	Core
23	NGERH2329XHZZ	AC	N	C	Platen gear
24	NGERP2318XHZZ	AD	N	C	Pinion gear
25	NROLP2334XHZZ	AE	N	C	Pinch roller
26	PSHEZ3253XHZZ	AC		C	Hopper sheet
27	NROLR2333XHZZ	AP	N	C	Paper feed roller
28	NROLR2353XHZZ	AX	N	C	Platen roller
29	NSFTZ2258XHZZ	AF	N	C	Pinch roller shaft
30	PGIDM2449XHZA	AF	N	C	Hopper guide, left
31	PGIDM2450XHZA	AF	N	C	Hopper guide, right
32	PGIDM2460XHZZ	AD	N	C	Head guide, right
33	PGIDM2461XHZZ	AD	N	C	Head guide, left
34	PGIDM2465XHZZ	AT	N	C	Recording paper guide
35	PGIDP2462XHZA	AT	N	C	Document guide lower
36	PSHEZ3031XHZZ	AA		C	Jack sheet
37	PCUSS2098XHZZ	AB	N	C	Speaker cushion
38	QACCB7125SCZZ	AZ		B	AC cord ass'y
39	QCNW-4590XHZZ	AL	N	C	Head cable
40	QCNW-4591XHZZ	AE	N	C	Head earth cable
41	QCNW-4672XHZA	AF	N	C	10key cable
⚠ 42	RCORF1030LCZZ	AE		B	Core
43	MSPRC2886XHZZ	AC		C	Head pressure spring
⚠ 44	RCORF2103XHZZ	AF	N	B	Core
45	RDENT2102XHZZ	BN	N	E	Power supply PWB unit
46	RHEDZ2046XHZZ	BT		B	Thermal head
47	DCEKL337BXH01	BK	N	E	TEL-Liu PWB unit
48	LPLTP2839XHZZ	AH	N	C	Anti curl
49	MSPRT2853XHZZ	AD	N	C	Anti curl spring
50	NSFTZ2264XHZZ	AL	N	C	Anti curl shaft
52	PSHEZ3234SCZZ	AC	N	C	Head cover sheet
53	NGERH2331XHZZ	AE	N	C	Cutter gear ass'y
54	PCUT-2034SCZZ	AU	N	C	Cutter unit
55	PGIDM2463XHZZ	AD	N	C	Recording paper guide upper
56	PGIDM2464XHZZ	AD	N	C	Recording paper guide lower
57	PGIDM2466XHZZ	AF	N	C	Cutter guide
58	QCNW-4615XHZZ	AE	N	C	Sensor cable
59	QSW-M2238SCZZ	AF	N	C	Recording paper sensor
60	PTME-2050XHZZ	AD	N	C	Paper cover lock hook
61	LHLDW2160SCZZ	AD		C	Cable clamp
62	MSPRB2883XHZZ	AC		C	Platen spring
63	LBNDJ2006XHZZ	AA		C	Band
64	PSPAG2222SCZZ	AC	N	C	Spacer
65	TLABS4052XHZZ	AD	N	C	BABT label
66	TLABH3841XHZZ	AD	N	C	Warning label
67	PSHEZ3269SCZZ	AD	N	C	Document guide sheet
68	PSHEZ3266SCZZ	AD	N	C	Paper guide sheet
69	LPLTM2835XHZZ	AK		C	Shield plate
70	PSHEZ3248XHZZ	AC		C	Insulation sheet
71	PSPAZ2213XHZZ	AE		C	Spacer
72	PFLT-2006XHZZ	AA		C	Sheet
73	TLABM3677XHZZ	AD		C	Mercury label
74	CCNW-4592XH01	AQ		C	Panel cable

2 Upper cabinet



3 Document guide upper



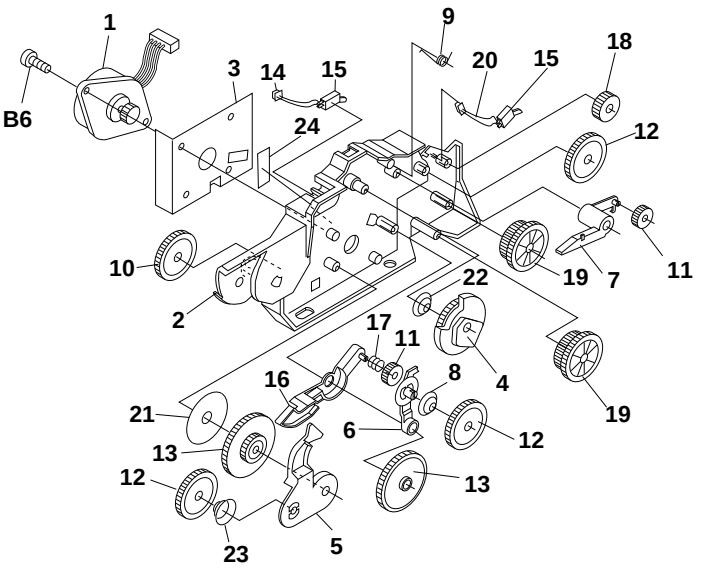
2 Upper cabinet

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	DCEKP333BXH01	BG	N	E	Operation panel PWB unit
2	GCABA2269XHZE	AQ	N	D	Upper cabinet
3	HPNLH2371XHZK	AL	N	D	Decoration panel
4	JBTN-2107XHZA	AG	N	C	12 key
5	JBTN-2175XHZA	AG	N	C	Direct key
6	JBTN-2176XHSA	AE	N	C	Start key
7	JBTN-2178XHSA	AD	N	C	Stop key
8	JBTN-2180XHZA	AD	N	C	Volume key
9	JBTN-2190XHZA	AD	N	C	Mode key
10	PGUMM2111XHZZ	AD	N	C	Rubber sheet
11	PSHEZ3214SCZZ	AM	N	C	Key sheet
	(Unit)				
901	CPNLH2371XH18	BM	N	D	Upper cabinet ass'y

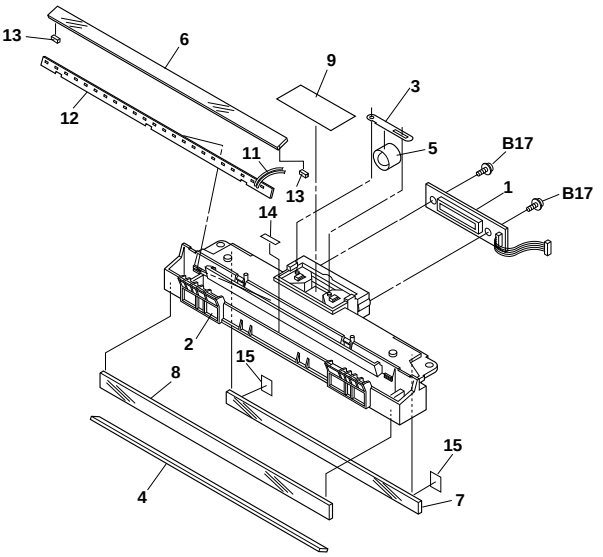
3 Document guide upper

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	LPLTG2707XHZZ	AE		C	Rubber, separator
2	LPLTP2790XHZZ	AD	N	C	Separator plate
3	MLEVP2214XHZZ	AC	N	C	Document sensor lever
4	MLEVP2215XHZZ	AF	N	C	Panel lock lever
5	MSPRD2814XHZZ	AC	N	C	Sensor lever spring
6	MSPRP2812XHZZ	AE	N	C	Feed spring
7	MSPRT2813XHZZ	AC	N	C	Separate spring
8	MSPRT2815XHFJ	AC	N	C	Panel lock lever spring
9	NGERH2316XHZZ	AC	N	C	Idler gear
10	NGERH2317XHZZ	AC	N	C	Idler gear
11	NROLP2334XHZZ	AE	N	C	Pinch roller
12	NSFTZ2257XHZZ	AG	N	C	Pinch roller shaft
13	PGIDM2474XHZZ	AF	N	C	Document guide upper
14	PSHEZ3199XHZZ	AD	N	C	Face sheet
15	NGERH2305XHZZ	AC	N	C	Transfer gear
16	NBRGP2141XHZZ	AH		C	Transfer bearing 2
17	NROLR2327XHZZ	AQ	N	C	Transfer roller 2
18	PSHEZ3239XHZZ	AC	N	C	Insulation sheet

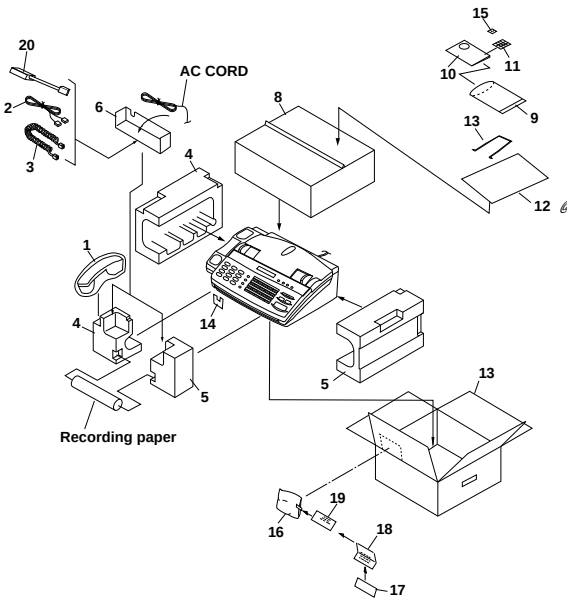
4 Drive unit



5 Optical unit



6 Packing material & Accessories



4 Drive unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	RMOTZ2126XHZZ	AZ	N	B	Motor
2	LFRM-2172XHZZ	AM	N	C	Drive system mounting frame
3	LPLTM2836XHZZ	AE	N	C	Heat sink
4	MCAMP2022XHZA	AC	N	C	Cam A
5	MLEVP2232XHZZ	AD	N	C	Planet gear lever A
6	MLEVP2233XHZZ	AC	N	C	Planet gear lever B
7	MLEVP2234XHZA	AE	N	C	Change lever
8	MSPRC2877XHZZ	AC	N	C	Planet gear spring
9	MSPRD2848XHZZ	AC	N	C	Change lever spring
10	NGERH2240XHZZ	AC		C	Reduction gear A
11	NGERH2278XHZZ	AC		C	Planet gear
12	NGERH2279XHZZ	AC		C	Idler gear A
13	NGERH2328XHZZ	AC	N	C	Reduction gear B
14	QCNW-4588XHZZ	AD	N	C	Switch cable
15	QSW-F2224SCZZ	AE		C	Detection switch
16	LPLTP2838XHZZ	AH	N	C	Planet gear plate
17	MSPRC2735XHZZ	AC		C	Planet gear spring
18	NGERH2316XHZZ	AC	N	C	Idler gear B
19	NGERH2332XHZZ	AC	N	C	Reduction gear C
20	QCNW-4614XHZZ	AD	N	C	Cutter cam switch cable
21	PSHEZ3255SCZZ	AD	N	C	Anti vibration sheet
22	MSPRC2885XHZZ	AC	N	C	Cam spring
23	MSPRC2855XHZZ	AC	N	C	Planet gear spring
24	PSPAK2221XHZZ	AC	N	C	Cam spacer

5 Optical unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	DCEKD475AXH04	BC	N	E	CCD PWB unit
2	LFRM-2164XHZA	AN	N	C	Optical frame
3	MSPRP2817XHZZ	AC	N	C	Lens holding spring
4	PGLSP2058XHZZ	AE	N	C	Reader glass
5	PLNS-2049XHZZ	AZ	N	C	Lens
6	PMIR-2070XHZZ	AG	N	C	Mirror 1
7	PMIR-2071XHZZ	AH	N	C	Mirror 2
8	PMIR-2072XHZZ	AH	N	C	Mirror 3
9	PSHEZ3196XHZZ	AC	N	C	Shading sheet
11	QCNW-4589XHZZ	AD	N	C	LED cable
12	VHPSNK15A24-1	AZ	N	B	LED
13	PSHEZ3258XHZZ	AC		C	Shield sheet 3
14	PFLT-2006XHZZ	AA		C	Himelon sheet
15	PSHEZ3250SCZZ	AC		C	Mirror sheet
	(Unit)				
901	DCYOD306BXH01	BU	N	E	Optical unit

6 Packing material & Accessories

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	DUNTK307BXHAG	AR	N	E	Handset
2	QCNW-4494SCBK	AF		C	Telephone line cord
3	QCNW-3976XHAG	AH		C	Handset cord
4	SPAKA4868XHZL	AF	N	D	Side Add., left
5	SPAKA4868XHZR	AF	N	D	Side Add., right
6	SPAKA043AXHZZ	AF	N	D	Pad., AC cord
7	SPAKC007AXHZZ	AF	N	D	Packing case
8	SPAKP3385SCZZ	AG	N	D	Vinyl cover
9	SSAKA0003HCZZ	AA	N	D	Vinyl bag(240×360mm)
10	TINSE3665XHZZ	AF	N	D	Operation manual
11	TLABH3938XHZZ	AD	N	D	Repid key label
12	SPAKA042AXHZZ	AF	N	D	Protection pad.,,
13	PWIR-2023XHZZ	AP	N	D	Recording paper tray
14	PSHEZ3259XHZZ	AC		D	Protection sheet
15	TLABZ2549XHZZ	AD		D	Emergency label
16	SSAKA1340QCZZ	AB		D	Vinyl bag
17	TCADZ2308XHZA	AC		D	Service call label
18	TCADZ2309XHZA	AC		D	After sales guide
19	TCADZ2310XHZZ	AC		D	Warranty regi
20	QCNW-4266XHZZ	AF		C	Extension telephone socket adaptor

7 Control PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	UBATL2044SCZZ	AL	N	B	Battery	[BAT1]
2	VCEAGA1CW106M	AA		C	Capacitor(16WV 10μF)	[C1]
3	VCEAGA1CW106M	AA		C	Capacitor(16WV 10μF)	[C2]
4	VCEAGA1EW226M	AB		C	Capacitor(25WV 22μF)	[C3]
5	VCEAEA1EW226M	AA		C	Capacitor(25WV 22μF)	[C4]
6	VCEAEA1EW226M	AA		C	Capacitor(25WV 22μF)	[C5]
7	VCEAEA1CW106M	AC		C	Capacitor(16WV 10μF)	[C6]
8	VCEAEA1HW226M	AB		C	Capacitor(50WV 22μF)	[C7]
9	VCEAEA1HW226M	AB		C	Capacitor(25WV 4.7μF)	[C8]
10	VCEAEA1HW226M	AB		C	Capacitor(50WV 22μF)	[C9]
11	VCEAEA1HW226M	AB		C	Capacitor(50WV 22μF)	[C10]
12	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C100]
13	VCCCTV1HH270J	AC		C	Capacitor(50WV 27PF)	[C101]
14	VCCCTV1HH240J	AA		C	Capacitor(50WV 24PF)	[C102]
15	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C103]
16	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C104]
17	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C105]
18	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.10μF)	[C106]
19	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C107]
20	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C108]
21	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C109]
22	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C110]
23	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C111]
24	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1μF)	[C112]
25	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01μF)	[C113]
26	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C114]
27	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C115]
28	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C116]
29	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C117]
30	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C118]
31	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C119]
32	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C120]
33	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C121]
34	VCKYTV1HB183K	AA		C	Capacitor(50WV 0.018μF)	[C122]
35	VCCSTV1HL391J	AA		C	Capacitor(50WV 390PF)	[C123]
36	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C124]
37	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C125]
38	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C127]
39	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C128]
40	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C129]
41	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C130]
42	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C131]
43	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C132]
44	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C133]
45	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C134]
46	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C135]
47	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C136]
48	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C137]
49	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C138]
50	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C139]
51	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C140]
52	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C141]
53	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C142]
54	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C143]
55	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C144]
56	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C145]
57	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C146]
58	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C147]
59	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C148]
60	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C149]
61	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C151]
62	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C152]
63	VCCCTV1HH150J	AA		C	Capacitor(50WV 15PF)	[C153]
64	VCKYTV1HB472K	AA		C	Capacitor(50WV 4700PF)	[C154]
65	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01μF)	[C155]
66	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C156]
67	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C157]
68	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C158]
69	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C159]
70	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C160]
71	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C161]
72	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C162]
73	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C163]
74	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C164]
75	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C165]
76	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C166]
77	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.10μF)	[C167]
78	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C168]
79	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C169]
80	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C170]

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NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
81	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C171]
82	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C172]
83	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C173]
84	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C174]
85	VCCCTV1HH180J	AA		C	Capacitor(50WV 18PF)	[C175]
86	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C176]
87	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C177]
88	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1μF)	[C178]
89	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C179]
90	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C180]
91	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C181]
92	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C182]
93	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C183]
94	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C184]
95	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C185]
96	VCCCTV1HH470J	AA		C	Capacitor(50WV 47PF)	[C186]
97	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C187]
98	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C188]
99	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C189]
100	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C191]
101	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0μF)	[C192]
102	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C193]
103	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C194]
104	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C195]
105	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C196]
106	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C197]
107	VCCSTV1HL101J	AA		C	Capacitor(50WV 100PF)	[C198]
108	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C199]
109	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C200]
110	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C201]
111	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C202]
112	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C203]
113	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C204]
114	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200PF)	[C205]
115	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C206]
116	VCKYTV1EF104Z	AA		C	Capacitor(25WV 0.1μF)	[C207]
117	QCNCM7014SC0G	AB		C	Connector(7pin)	[CNCCD]
118	QCNCM2442SC0B	AB		C	Connector(2pin)	[CNCSW]
119	QCNCM2401SC0B	AA		C	Connector(2pin)	[CNCUT]
120	QCNCM7014SC0B	AD		C	Connector(2pin)	[CNLED]
121	QCNCM2499SC0H	AE	N	C	Connector(8pin)	[CNLIUA]
122	QCNCM2499SC1A	AF	N	C	Connector(11pin)	[CNLIUB]
123	QCNCM7014SC0F	AB		C	Connector(6pin)	[CNMT]
124	QCNCM7014SC1F	AD	N	C	Connector(16pin)	[CNPN]
125	QCNCM7014SC0B	AD		C	Connector(2pin)	[CNPS]
126	QCNCW2500SC0I	AF	N	C	Connector(9pin)	[CNPW]
127	QCNCM7014SC1C	AC		C	Connector(13pin)	[CNTH]
128	VHD1SS355//-1	AB		B	Diode(1SS355)	[D100]
129	VHD1SS355//-1	AB		B	Diode(1SS355)	[D101]
130	VHDDAP202K/-1	AB		B	Diode(DAP202K)	[D102]
131	VHD1SS355//-1	AB		B	Diode(1SS355)	[D104]
132	VHD1SS355//-1	AB		B	Diode(1SS355)	[D105]
133	VRD-RC2EY100J	AA		C	Resistor(1/4W 10Ω ±5%)	[FL1]
134	VHVICPN20//-1	AD		B	IC protector(ICP-N20)	[FU1]
135	QSOCZ2053XH32	AK		C	IC socket(32pin)	[IC1]
	VHI27C10FVL0F	BM	N	B	IC ROM(ONE TIME ROM)	[IC1]
137	VHINJM2904M-1	AE		B	IC(NJM2904)	[IC2]
138	VHIW24257S7LL	AP	N	B	IC(W24257S-70LLT)	[IC3]
139	VHINJM4558MF-	AC		B	IC(NJM4558)	[IC4]
140	VHIR96SFELC-1	BG		B	IC	[IC5]
141	VHINJM318M/-F	AF		B	IC(NJM318)	[IC6]
142	VHIMC74HCU04F	AD		B	IC(HCU04)	[IC7]
143	VHIR96SFELC-1	BG	N	B	IC	[IC8]
144	VHIHEF4066BT1	AF	N	B	IC(HEF4066)	[IC9]
145	VHIHEF4066BT1	AF	N	B	IC(HEF4066)	[IC10]
146	VHINJM2903M/-	AD		B	IC(NJM2903)	[IC11]
147	VHIULN2003AN/	AE		B	IC(ULN2003ANS)	[IC12]
148	VHIPST591CMT1	AE		B	IC(PST591C)	[IC100]
149	VRS-TP2BD000J	AA		C	Resistor(1/8W 0Ω ±5%)	[L100]
150	VRS-TP2BD000J	AA		C	Resistor(1/8W 0Ω ±5%)	[L101]
151	RCILZ2138SCZZ	AC		C	Coil(BK2125H601-T)	[L102]
152	RCILZ2138SCZZ	AC		C	Coil(BK2125H601-T)	[L103]
153	RCILZ2138SCZZ	AC		C	Coil(BK2125H601-T)	[L104]
154	RCILZ2138SCZZ	AC		C	Coil(BK2125H601-T)	[L105]
155	RCILZ2139SCZZ	AC		C	Coil(BK2125H601-T)	[L106]
156	RCILZ2138SCZZ	AC		C	Coil(BK2125H601-T)	[L107]
157	RCILZ2138SCZZ	AC		C	Coil(BK2125H601-T)	[L108]
158	VRS-TP2BD000J	AA		C	Resistor(1/8W 0Ω ±5%)	[L109]
159	RCILZ2138SCZZ	AC		C	Coil(BK2125H601-T)	[L110]
160	VRS-TP2BD000J	AA		C	Resistor(1/8W 0Ω ±5%)	[L111]

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NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
161	VS2SC2412KS-1	AB		B	Transistor(2SC2412KR)	[Q100]
162	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q101]
163	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q102]
164	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q103]
165	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q104]
166	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q105]
167	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q106]
168	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R100]
169	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R101]
170	VRS-TS2AD562J	AA		C	Resistor(1/10W 5.6KΩ ±5%)	[R102]
171	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R103]
172	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R104]
173	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R105]
174	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R107]
175	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R108]
176	VRS-TS2AD102J	AA		C	Resistor(1/10W 1.0KΩ ±5%)	[R109]
177	VRSTS2AD1183F	AA		C	Resistor(1/10W 118KΩ ±5%)	[R110]
178	VRSTS2AD8662F	AA		C	Resistor(1/10W 86.6KΩ ±5%)	[R111]
179	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R112]
180	VRS-TS2AD3R0J	AA		C	Resistor(1/10W 3Ω ±5%)	[R113]
181	VRSTS2AD4752F	AA		C	Resistor(1/10W 47.5KΩ ±5%)	[R114]
182	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R115]
183	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R116]
184	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R117]
185	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R118]
186	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R119]
187	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R120]
188	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R121]
189	VRS-TS2AD820J	AA		C	Resistor(1/10W 82Ω ±5%)	[R122]
190	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R123]
191	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R124]
192	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R125]
193	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R126]
194	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±1%)	[R127]
195	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±1%)	[R129]
196	VRS-TS2AD223J	AA		C	Resistor(1/10W 22KΩ ±5%)	[R130]
197	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R131]
198	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R132]
199	VRSTS2AD8662F	AA		C	Resistor(1/10W 86.6KΩ ±1%)	[R133]
200	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R134]
201	VRSTS2AD3652F	AA		C	Resistor(1/10W 36.5KΩ ±1%)	[R135]
202	VRS-TS2AD273J	AA		C	Resistor(1/10W 27KΩ ±5%)	[R136]
203	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R137]
204	VRS-TS2AD303J	AA		C	Resistor(1/10W 30KΩ ±5%)	[R138]
205	VRS-TS2AD302J	AA		C	Resistor(1/10W 3.0KΩ ±5%)	[R139]
206	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R140]
207	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R141]
208	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R142]
209	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R143]
210	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R144]
211	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R145]
212	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R146]
213	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R147]
214	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R148]
215	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R149]
216	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R150]
217	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R151]
218	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R152]
219	VRS-TS2AD100J	AA		C	Resistor(1/10W 10Ω ±5%)	[R153]
220	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R154]
221	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R155]
222	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R156]
223	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R157]
224	VRS-TS2AD223J	AA		C	Resistor(1/10W 22KΩ ±5%)	[R158]
225	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R159]
226	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R160]
227	VRS-TS2AD271J	AA		C	Resistor(1/10W 271Ω ±5%)	[R161]
228	VRS-TS2AD271J	AA		C	Resistor(1/10W 271Ω ±5%)	[R162]
229	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R163]
230	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R164]
231	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R165]
232	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R166]
233	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R167]
234	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R168]
235	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R169]
236	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R170]
237	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R171]
238	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R172]
239	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R173]
240	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R174]

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NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
241	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R175]
242	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R176]
243	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R177]
244	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R178]
245	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R179]
246	VRS-TS2AD102J	AA		C	Resistor(1/10W 1.0KΩ ±5%)	[R180]
247	VRS-TS2AD822J	AA		C	Resistor(1/10W 8.2KΩ ±5%)	[R181]
248	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R182]
249	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R183]
250	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R184]
251	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R185]
252	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R186]
253	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R187]
254	VRS-TS2AD105J	AA		C	Resistor(1/10W 1.0MΩ ±5%)	[R189]
255	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R190]
256	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R191]
257	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R192]
258	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R193]
259	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R194]
260	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R195]
261	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R196]
262	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R197]
263	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R198]
264	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R199]
265	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R200]
266	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R201]
267	VRS-TS2AD106J	AA		C	Resistor(1/10W 10MΩ ±5%)	[R202]
268	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R203]
269	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R204]
270	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R205]
271	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R206]
272	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R207]
273	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R208]
274	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R209]
275	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R210]
276	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R211]
277	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R212]
278	VRS-TS2AD302J	AA		C	Resistor(1/10W 3KΩ ±5%)	[R213]
279	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R214]
280	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R215]
281	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R216]
282	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R217]
283	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R218]
284	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R219]
285	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R220]
286	VRS-TS2AD820J	AA		C	Resistor(1/10W 82Ω ±5%)	[R221]
287	VRS-TS2AD820J	AA		C	Resistor(1/10W 82Ω ±5%)	[R222]
288	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R223]
289	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R224]
290	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R225]
291	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R226]
292	VRS-TS2AD104J	AA		C	Resistor(1/10W 100KΩ ±5%)	[R227]
293	VRS-TS2AD562J	AA		C	Resistor(1/10W 5.6KΩ ±5%)	[R228]
294	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R229]
295	VRS-TS2AD302J	AA		C	Resistor(1/10W 3.0KΩ ±5%)	[R230]
296	VRS-TS2AD103J	AA		C	Resistor(1/10W 270Ω ±5%)	[R231]
297	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R232]
298	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R233]
299	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R234]
300	VRS-TS2AD474J	AA		C	Resistor(1/10W 470KΩ ±5%)	[R235]
301	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R236]
302	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R237]
303	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R238]
304	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R239]
305	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R240]
306	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R241]
307	VRS-TS2AD134J	AA		C	Resistor(1/10W 130KΩ ±5%)	[R242]
308	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R243]
309	VRS-TS2AD163J	AA		C	Resistor(1/10W 16KΩ ±5%)	[R244]
310	VRS-TS2AD333J	AA		C	Resistor(1/10W 33KΩ ±5%)	[R245]
311	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R246]
312	VRS-TS2AD271J	AA		C	Resistor(1/10W 270Ω ±5%)	[R247]
313	VRS-TS2AD562J	AA		C	Resistor(1/10W 5.6KΩ ±5%)	[R248]
314	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R249]
315	VRS-TS2AD223J	AA		C	Resistor(1/10W 22KΩ ±5%)	[R250]
316	VRS-TS2AD221J	AA		C	Resistor(1/10W 220Ω ±5%)	[R252]
317	VRS-TS2AD394J	AA		C	Resistor(1/10W 390KΩ ±5%)	[R253]
318	VRS-TP2BD000J	AA		C	Resistor(1/8W 0Ω ±5%)	[R254]
319	RMPTW4271SCJF	AD	N	C	Block resistor(1/8W 270Ω ±1%)	[RA1]
320	RMPTW4271SCJF	AD	N	C	Block resistor(1/8W 270Ω ±1%)	[RA2]

7 Control PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
321	RCRSP2080SCZZ	AF		B	Crystal(24.00014MHz)	[X1]
322	RCRSP2327RCZZ	AD		B	Crystal(12MHz)	[X2]
323	RCRSB0297AFZZ	AD		B	Crystal(32.768KHz)	[X3]
324	VHERD22FB3/-1	AC		B	Zener diode(RD22FB3)	[ZD1]
	(Unit)					
901	DCEKC787HXHZZ	BY	N	E	Control PWB unit(Within ROM)	

8 TEL-Liu PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	VHVRA501PV6-1	AE	N	B	Varistor(RA501PV6)	[AR1]
2	VHVRA501PV6-1	AE		B	Varistor(RA501PV6)	[AR2]
3	QCNW-4619XHZZ	AE	N	C	ARG cable	[ARG]
4	RC-EZ2022SCZZ	AB		C	Capacitor(10WV 47µF)	[C1]
5	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7µF)	[C2]
6	VCEAGA1HW105M	AB		C	Capacitor(50WV 1.0µF)	[C3]
7	VCEAGA1CW107M	AC		C	Capacitor(16WV 100µF)	[C4]
8	VCEAGA1EW476M	AA		C	Capacitor(25WV 47µF)	[C5]
9	VCEAGA1HW226M	AB		C	Capacitor(50WV 22µF)	[C6]
10	VCEAGA1HW226M	AB		C	Capacitor(50WV 22µF)	[C7]
11	RC-FZ2012SCZZ	AE		C	Capacitor(250WV 1.8µF)	[C8]
12	VCEAGA1HW106M	AA		C	Capacitor(50WV 10µF)	[C9]
13	VCEAGA1AW336M	AA		C	Capacitor(10WV 33µF)	[C10]
14	VCEAGA1EW476M	AA		C	Capacitor(25WV 47µF)	[C11]
15	VCEAGA1HW335M	AB		C	Capacitor(50WV 3.3µF)	[C12]
16	VCEAGA1AW107M	AB		C	Capacitor(10WV 100µF)	[C13]
17	VCEAGA1HW105M	AB		C	Capacitor(50WV 1.0µF)	[C14]
18	VCEAGA1HW105M	AB		C	Capacitor(50WV 1.0µF)	[C15]
19	VCEAGA2AW474M	AC		C	Capacitor(100WV 0.47µF)	[C16]
20	VCQYNA1HM224K	AC		C	Capacitor(50WV 0.22µF)	[C17]
21	VCEAGA1HW225M	AA		C	Capacitor(50WV 2.2µF)	[C18]
22	VCEAGA1HW106M	AA		C	Capacitor(50WV 10µF)	[C19]
23	VCEAGA1HW106M	AA		C	Capacitor(50WV 10µF)	[C20]
24	VCEAGA1HW105M	AB		C	Capacitor(50WV 1.0µF)	[C21]
25	VCKYTV1HB561K	AA		C	Capacitor(50WV 560PF)	[C101]
26	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[C102]
27	VCKYTQ1EB224K	AB		C	Capacitor(25WV 0.22µF)	[C103]
28	VCKYTQ1HB563K	AA		C	Capacitor(50WV 0.056µF)	[C104]
29	VCKYTQ1HB473K	AA		C	Capacitor(50WV 0.047µF)	[C105]
30	VCKYTQ1HB104K	AB		C	Capacitor(50WV 0.1µF)	[C106]
31	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C108]
32	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C109]
33	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C110]
34	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C111]
35	VCKYTV1HB223K	AA		C	Capacitor(50WV 0.022µF)	[C113]
36	VCKYTV1HB472K	AA		C	Capacitor(50WV 4700PF)	[C114]
37	VCKYTV1HF223Z	AA		C	Capacitor(50WV 0.022µF)	[C116]
38	VCKYTV1HB102K	AA		C	Capacitor(50WV 1000PF)	[C117]
39	VCKYTQ1HB104K	AB		C	Capacitor(50WV 0.1µF)	[C118]
40	VCCCTV1HH101J	AA		C	Capacitor(50WV 1000PF)	[C119]
41	VCKYTV1HB562K	AA		C	Capacitor(50WV 5600PF)	[C120]
42	VCKYTV1HB183K	AA		C	Capacitor(50WV 0.018µF)	[C121]
43	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C122]
44	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C123]
45	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C124]
46	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C125]
47	VCKYTV1HB681K	AA		C	Capacitor(50WV 680PF)	[C131]
48	VCKYTV1HF223Z	AA		C	Capacitor(50WV 0.022µF)	[C132]
49	VCKYTV1HF223Z	AA		C	Capacitor(50WV 0.022µF)	[C133]
50	VCKYTV1HF223Z	AA		C	Capacitor(50WV 0.022µF)	[C134]
51	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C135]
52	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C136]
53	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C137]
54	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C138]
55	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C139]
56	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C140]
57	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C141]
58	VCKYTV1HB331K	AA		C	Capacitor(50WV 330PF)	[C142]
59	VCCCTV1HH300J	AA		C	Capacitor(50WV 30PF)	[C143]
60	VCCCTV1HH300J	AA		C	Capacitor(50WV 30PF)	[C144]
61	VCKYTV1HB103K	AB		C	Capacitor(50WV 0.01µF)	[C145]
62	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1.0µF)	[C146]
63	RRLYZ3420SCZZ	AN	N	B	Relay(G6GN-2D)	[CML]
64	QJAKZ2065SC0D	AG		C	Jack	[CNHJ]
65	QCNCW2500SC0H	AF		C	Connector(12pin)	[CNLIUA]
66	QCNCW2500SC1A	AE		C	Connector(11pin)	[CNLIUB]

8 TEL-Liu PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
67	QJAKZ2046SCDD	AK		C	Jack(4pin)	[CNLNJ]
68	QCNCM2401SC0H	AC		C	Connector(8pin)	[CNPH]
69	QCNCM2401SC0B	AA		C	Connector(2pin)	[CNSP]
70	VHDDSS131//-1	AA		B	Diode(DSS131)	[D1]
71	VHD1SS82///-1	AB		B	Diode(1SS82)	[D2]
72	VHDDSS133//-1	AA		B	Diode(DSS133)	[D3]
73	VHDRB421D//-1	AC		B	Diode(RD421D)	[D4]
74	VHITEA1062A-1	AR		B	IC(TEA1062A)	[IC1]
75	VHINJM2113M-1	AG		B	IC(NJM2113M)	[IC101]
76	VHINJM4558MF-	AC		B	IC(NJM4558)	[IC102]
77	VHINJM4558MF-	AC		B	IC(NJM4558)	[IC103]
78	VHIMC14053DR2	AE		B	IC(MC14053)	[IC104]
79	VHIBU8307CF/1	AT		B	IC(BU8307)	[IC105]
80	VHPTLP627//-1	AH		B	Photo coupler(TLP627)	[PC1]
81	VHPTLP620//-1	AF		B	Photo coupler(TLP620)	[PC2]
82	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC3]
83	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC4]
84	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC5]
85	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC6]
86	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC7]
87	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC8]
88	VHPTLP521-1BL	AE		B	Photo coupler(TLP521)	[PC9]
89	VHPSG206S//-1	AG		B	Photo transistor(SG206S)	[PE1]
90	VS2SA1807-P-1	AE		B	Transistor(2SA1807)	[Q1]
91	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q101]
92	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q102]
93	VSRNC1420//-1	AC		C	Transistor(RNC1402)	[Q103]
94	VS2SC4061K/-1	AC		B	Transistor(2SC4061)	[Q104]
95	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q105]
96	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q106]
97	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q107]
98	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q108]
99	VS2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q109]
100	VS2SA1037KR-1	AB		B	Transistor(2SA1037K)	[Q110]
101	VC2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q111]
102	VC2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q112]
103	VC2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q113]
104	VSRNC1402//-1	AC		B	Transistor(RNC1402)	[Q114]
105	VS2SJ106GR/-1	AD		B	Transistor(2SJ106GR)	[Q115]
106	VS2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q116]
107	VS2SC2412KR-1	AD		B	Transistor(2SC2412K)	[Q117]
108	VRD-HT2HY114J	AB		C	Resistor(1/2W 110KΩ ±5%)	[R1]
109	VRS-HT3AA103J	AA		C	Resistor(1.0W 10KΩ ±5%)	[R2]
110	VRD-HT2HY101J	AA		C	Resistor(1/2W 100Ω ±5%)	[R3]
111	VRD-HT2HY200J	AA		C	Resistor(1/2W 20Ω ±5%)	[R4]
112	VRS-HT3AA560J	AA		C	Resistor(1.0W 56Ω ±5%)	[R5]
113	VRS-TS2AD910J	AA		C	Resistor(1/10W 91Ω ±5%)	[R101]
114	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R102]
115	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R103]
116	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R104]
117	VRS-TS2AD104J	AA		C	Resistor(1/10W 100KΩ ±5%)	[R105]
118	VRS-TS2AD753J	AA		C	Resistor(1/10W 75KΩ ±5%)	[R106]
119	VRS-TS2AD302J	AA		C	Resistor(1/10W 3.0KΩ ±5%)	[R107]
120	VRS-TS2AD162J	AA		C	Resistor(1/10W 1.6KΩ ±5%)	[R108]
121	VRS-TS2AD134J	AA		C	Resistor(1/10W 130KΩ ±5%)	[R109]
122	VRS-TS2AD392J	AA		C	Resistor(1/10W 3.9KΩ ±5%)	[R110]
123	VRS-TS2AD224J	AA		C	Resistor(1/10W 220KΩ ±5%)	[R111]
124	VRS-TS2AD124J	AA		C	Resistor(1/10W 120KΩ ±5%)	[R112]
125	VRS-TS2AD202J	AA		C	Resistor(1/10W 2.0KΩ ±5%)	[R113]
126	VRS-TS2AD681J	AA		C	Resistor(1/10W 680Ω ±5%)	[R114]
127	VRS-TS2AD391J	AA		C	Resistor(1/10W 390Ω ±5%)	[R115]
128	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R116]
129	VRS-TS2AD153J	AA		C	Resistor(1/10W 15KΩ ±5%)	[R118]
130	VRS-TS2AD753J	AA		C	Resistor(1/10W 75KΩ ±5%)	[R119]
131	VRS-TS2AD104J	AA		C	Resistor(1/10W 100KΩ ±5%)	[R120]
132	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R121]
133	VRS-TS2AD202J	AA		C	Resistor(1/10W 2.0KΩ ±5%)	[R122]
134	VRS-TS2AD752J	AA		C	Resistor(1/10W 7.5KΩ ±5%)	[R123]
135	VRS-TS2AD472J	AA		C	Resistor(1/10W 4.7KΩ ±5%)	[R124]
136	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R125]
137	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R126]
138	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R127]
139	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R128]
140	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R129]
141	VRS-TS2AD134J	AA		C	Resistor(1/10W 130KΩ ±5%)	[R130]
142	VRS-TS2AD623J	AA		C	Resistor(1/10W 62KΩ ±5%)	[R131]
143	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R132]
144	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R133]
145	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R134]
146	VRS-TS2AD683J	AA		C	Resistor(1/10W 68KΩ ±5%)	[R135]

8 TEL-Liu PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
147	VRS-TS2AD683J	AA		C	Resistor(1/10W 68KΩ ±5%)	[R136]
148	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%)	[R137]
149	VRS-TS2AD102J	AA		C	Resistor(1/10W 1.0KΩ ±5%)	[R138]
150	VRS-TS2AD122J	AA		C	Resistor(1/10W 1.2KΩ ±5%)	[R139]
151	VRS-TS2AD104J	AA		C	Resistor(1/10W 100KΩ ±5%)	[R140]
152	VRS-TS2AD104J	AA		C	Resistor(1/10W 100KΩ ±5%)	[R141]
153	VRS-TS2AD683J	AA		C	Resistor(1/10W 68KΩ ±5%)	[R142]
154	VRS-TS2AD124J	AA		C	Resistor(1/10W 120KΩ ±5%)	[R143]
155	VRS-TS2AD204J	AA		C	Resistor(1/10W 200KΩ ±5%)	[R144]
156	VRS-TS2AD204J	AA		C	Resistor(1/10W 200KΩ ±5%)	[R145]
157	VRS-TS2AD204J	AA		C	Resistor(1/10W 200KΩ ±5%)	[R146]
158	VRS-TS2AD102J	AA		C	Resistor(1/10W 1.0KΩ ±5%)	[R147]
159	VRS-TS2AD820J	AA		C	Resistor(1/10W 82Ω ±5%)	[R148]
160	VRS-TS2AD154J	AA		C	Resistor(1/10W 150KΩ ±5%)	[R149]
161	VRS-TS2AD104J	AA		C	Resistor(1/10W 100KΩ ±5%)	[R150]
162	VRS-TS2AD183J	AA		C	Resistor(1/10W 18KΩ ±5%)	[R151]
163	VRSTS2AD3651F	AA		C	Resistor(1/10W 3.65KΩ ±1%)	[R152]
164	VRS-TS2AD241J	AA		C	Resistor(1/10W 240Ω ±5%)	[R153]
165	VRS-TS2AD202J	AA		C	Resistor(1/10W 2KΩ ±5%)	[R154]
166	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R155]
167	VRS-TS2AD561J	AA		C	Resistor(1/10W 560Ω ±5%)	[R156]
168	VRS-TS2AD162J	AA		C	Resistor(1/10W 1.6KΩ ±5%)	[R157]
169	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R158]
170	VRS-TS2AD203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R159]
171	VRS-TS2AD103J	AA		C	Resistor(1/10W 10KΩ ±5%)	[R160]
172	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R161]
173	VRS-TS2AD134J	AA		C	Resistor(1/10W 130KΩ ±5%)	[R162]
174	VRS-TS2AD471J	AA		C	Resistor(1/10W 470Ω ±5%)	[R163]
175	VRS-TS2AD183J	AA		C	Resistor(1/10W 18KΩ ±5%)	[R164]
176	VRS-TS2AD474J	AA		C	Resistor(1/10W 470KΩ ±5%)	[R165]
177	VRS-TS2AD204J	AA		C	Resistor(1/10W 200KΩ ±5%)	[R166]
178	VRS-TS2AD204J	AA		C	Resistor(1/10W 200KΩ ±5%)	[R167]
179	VRS-TS2AD102J	AA		C	Resistor(1/10W 1.0KΩ ±5%)	[R168]
180	VRS-TS2AD221J	AA		C	Resistor(1/10W 220Ω ±5%)	[R169]
181	VHD0R5G4B42-1	AF		B	Diode(0R5G4B42)	[REC1]
182	QCNCW2468SC0C	AB		C	Short pin socket	[SOCKET]
183	QCNCM2467SC0C	AB		C	Short pin(3pin)	[SP1]
184	QSW-Z2214SCZZ	AH		B	Hook switch(SPPY12-A)	[SW1]
185	RTRNZ2140XHZZ	AN		B	Transformer(Z2140)	[T1]
186	RTRNI2142XHZZ	AR		B	Transformer(I2142)	[T2]
187	VHVTN07G101-1	AB		B	Varistor(TNR7G101KT2)	[VA1]
188	RCRM-0091AFZZ	AE		B	Crystal(3.58MHz)	[X1]
189	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD1]
190	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD2]
191	VHEMTZJ300B-1	AA		B	Zener diode(MTZJ300B)	[ZD3]
192	VHEMTZJ3R9B-1	AC		B	Zener diode(MTZJ3R9B)	[ZD4]
193	VHEMTZJ3R9B-1	AC		B	Zener diode(MTZJ3R9B)	[ZD5]
194	VHEHZ15-2//-1	AB		B	Zener diode(HZ15-2)	[ZD6]
195	VHEHZ2A1///-1	AC		B	Zener diode(HZ2A1)	[ZD7]
196	VHEHZ2A1///-1	AC		B	Zener diode(HZ2A1)	[ZD8]
197	VHEHZ11C3//-1	AB		B	Zener diode(HZ11C3)	[ZD9]
198	VHEMTZJ5R6B-1	AB		B	Zener diode(MTZJ5R6B)	[ZD10]
199	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD11]
200	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD12]
201	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD13]
202	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD14]
203	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD15]
204	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD16]
205	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD17]
206	VHEHZS3B1//-1	AC		B	Zener diode(HZS3B1)	[ZD18]
	(Unit)					
901	DCEKL337BXH01	BK	N	E	TEL-Liu PWB unit	

9 Power supply PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	0CB829650012/	BD		B	Transformer(PT-P88-KTT)	[T1]
2	0CBUKZ0826ZZ/	AK		B	Filter(ELF15N003A)	[L1]
3	0CBBFZ89154Z/	AC			Ferrite core(BL01RN1-A62B1)	[FB1]
4	0CBUAG0161CZ/	AP			FET(FS5KM-18A)	[Q1]
5	0CBUAC0027AZ/	AE		B	Transistor(2SC2655)	[Q2]
6	0CBUAC0023AZ/	AD		B	Transistor(2SC1815)	[Q3]
7	0CBUAC0056AZ/	AD		B	Transistor(2SC2002)	[Q4]
8	0CBUCB0107AZ/	AQ		B	IC(NJM78M05FA)	[IC1]
9	0CBUBC0215DK/	AD		B	Diode(RL1N4005-F)	[D1, 2, 3, 4]
10	0CBUBC0248AZ/	AD		B	Diode(05NU42)	[D5]

9 Power supply PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
11	0CBUBA0003BK/	AD		B	Diode(1S2076A-TA)	[D6, 9]
12	0CBUBB0216BZ/	AL		B	Diode stack(F6P20F)	[D7]
13	0CBUBC0302AZ/	AE		B	Diode(SR140)	[D8]
14	0CBUBDAC270B/	AC		B	Zener diode(RD27ESAB1)	[ZD1]
15	0CBUBDAC3R3C/	AD			Zener diode(RD3.3ESAB2)	[ZD2]
16	0CBUBDAC6R2C/	AC		B	Zener diode(RD6.2ESAB2)	[ZD3]
17	0CBUBDAE300D/	AD		B	Zener diode(RD30FB3)	[ZD4]
18	0CBUEZ0507ZZ/	AD			Varistor(ERZV07D471-CS)	[V1]
19	0CBUDC0163BB/	AH		B	Photo coupler(PC123FY8)	[PC1]
20	0CBUGZ0975ZZ/	AF		C	Film capacitor(2222 336 20104)	[C1, 2]
21	0CBUGZ1072ZZ/	AN		C	Capacitor(KMF400VB68M18X30)	[C5]
22	0CBUGCU152BR/	AF	N		Ceramic capacitor(DE1105R152K1K-MHR)	[C6]
23	0CBUGCU221BQ/	AD		C	Ceramic capacitor(DE0705-1R221K1K-MHR)	[C7]
24	VCQYNU1HM472K	AB			Film capacitor(AMZ-472K50)	[C8]
25	0CBUGFF683AR/	AD		C	Film capacitor(AMZ-683K50)	[C9]
26	VCQYNU1HM102K	AB		C	Film capacitor(AMZ-102K50)	[C10, 11, 14]
27	0CBUGCM472AU/	AF	N		Ceramic capacitor(DE7100-1F472MVA1-H)	[C12, 13]
28	0CBUGAE681UG/	AH		C	Capacitor(UPJ1V681MHH1AA)	[C15]
29	0CBUGCS222AP/	AC		C	Ceramic capacitor(DD08-63E222P500)	[C16]
30	0CBUGAC471UM/	AF		C	Capacitor(UPJ1C471MPH6AA)	[C18]
31	0CBUGAC101HD/	AC		C	Capacitor(UVZ1C101MAH1AA)	[C19]
32	0CBUGCM222BJ/	AF	N		Ceramic capacitor(DE1210-1E222M-KX)	[C20]
33	0CBUEFC564BA/	AC		C	Metal film resistor(SFR25H560K(52))	[R1]
34	0CBUEFER33CH/	AC			Metal film resistor(SPRX2R33J)	[R2]
35	0CBUEEB153CT/	AC		C	Carbon resistor(RD16S-T26-153J)	[R3]
36	0CBUEEB101CT/	AC		C	Carbon resistor(RD16S-T26-101J)	[R4]
37	0CBUEEB564CT/	AC		C	Carbon resistor(RD16S-T26-564J)	[R5, 6]
38	0CBUEFE104AV/	AD	N		Metal film resistor(RS2FS104J F-15)	[R7]
39	0CBUEFE391CE/	AD			Metal film resistor(RSS2 T52 391J)	[R8]
40	0CBUEEC271BS/	AC	N		Carbon resistor(RDF50SS-T26-271J)	[R9]
41	0CBUEEB330CW/	AC		C	Carbon resistor(RDF16S-T26-330J)	[R10]
42	0CBUEEC122BS/	AC		C	Carbon resistor(RDF50SS-T26-122J)	[R12]
43	0CBUEEB271CT/	AC		C	Carbon resistor(RD16S-T26-271J)	[R13]
44	0CBUEEB682CT/	AC		C	Carbon resistor(RD16S-T26-682J)	[R14]
45	0CBUEEB242CT/	AC		C	Carbon resistor(RD16S-T26-242J)	[R15]
46	0CBUFBA501DH/	AC		B	Variable resisror(KVSF637T TB501)	[VR1]
47	0CBPHZ0163ZZ/	AR	N		Relay(AJS33123(AJS1A-24V))	[RY1]
48	0CBUDZ0052ZZ/	AG		B	Thermistor(M16007C)	[TH1]
49	0CBPJCTY1251/	AK		A	Current fuse(2151.25 ME600)	[F1, 3]
50	0CBPZZ0602ZZ/	AC		C	Jumping wire(IPS-3002-2)	[F2]
51	0CBSBD0508ZZ/	AC			Label(D1043-6005C)	[NP1]
53	0CBLRZ6251ZQ/	AP		C	Chassis(W4020-5001AT EZS)	[MT1]
54	0CBLRZ6252ZP/	AP		C	Heat sink(W4020-5002AT TC)	[MT2]
55	0CBLRZ6279ZP/	AP		C	Heat sink(W4023-5001AT TC)	[MT3]
56	0CBPKZ0194ZZ/	AC		C	Base post ass'y(B 2P3-VH)	[CN1]
57	0CBPCZ0211ZZ/	AG	N		Connector(09P-FJ)	[CN2]
58	0CBUGCM102AT/	AE		C	Ceramic capacitor(DE7090-1B102KVA1-H)	[C3, 4]
	(Unit)					
901	RDENT2102XHZZ	BN	N	E	Power supply PWB unit	

10 CCD PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C1]
2	VCKYPU1HF223Z	AA		C	Capacitor(50WV 0.022μF)	[C2]
3	QCNW-4593XHZZ	AL	N	C	Connector	[CN1]
4	VHITCD1208GL1	AX		B	IC(TCD1208GL1)	[IC1]
5	VS2SC1815GR-1	AB		C	Transistor(2SC1815GR)	[Q1]
6	VRD-RC2EY222J	AA		C	Resistor(1/4W 2.2KΩ ±5%)	[R1]
7	VRD-RC2EY390J	AA		C	Resistor(1/4W 39Ω ±5%)	[R2]
	(Unit)					
901	DCEKD475AXH04	BC		E	CCD PWB unit	

50 Hardware parts

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	XBPSD30P06K00	AA		C	Screw(M3×6K)
2	XEBSD30P16000	AA		C	Screw(M3×16)
5	XBPSN40P06K00	AA		C	Screw(M4×6K)
6	XEBSD30P06000	AA		C	Screw(M3×6)
7	XEBSD30P08000	AA		C	Screw(M3×8)
8	XEBSD30P10000	AA		C	Screw(M3×10)

50 Hardware parts

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
9	XEBSD30P12000	AA		C	Screw(M3×12)
13	XUBSD20P06000	AA		C	Screw(M2×6)
15	XHBSD30P06000	AA		C	Screw(M3×6)
16	XEBSF30P10000	AA		C	Screw(M3×10)
17	LX-BZ2210XHZZ	AC		C	Screw
18	LX-BZ2138XHZZ	AB		C	Screw
19	LX-BZ2214XHZZ	AC	N	C	Screw

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PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
[C]				
CCNW-4587XH01	1- 1	AL	N	C
CCNW-4592XH01	1- 74	AQ		C
CGERH2306XH02	1- 2	AN	N	C
CPNLH2371XH18	1- 3	BM	N	D
〃	2- 901	BM	N	D
[D]				
DCEKC787HXHZZ	1- 4	BY	N	E
〃	7- 901	BY	N	E
DCEKD475AXH04	5- 1	BC	N	E
〃	10- 901	BC		E
DCEKL337BXH01	1- 47	BK	N	E
〃	8- 901	BK	N	E
DCEKP333BXH01	2- 1	BG	N	E
DCYOD306BXH01	5- 901	BU	N	E
DUNTK307BXHAG	6- 1	AR	N	E
[G]				
GCABA2269XHZE	2- 2	AQ	N	D
GCABB2277XHPA	1- 5	AV	N	D
GCOVA2369XHZA	1- 7	AN	N	D
GCOVA2370XHZA	1- 6	AN	N	C
GLEGG2063XHZZ	1- 8	AC	N	C
[H]				
HPNLH2371XHZK	2- 3	AL	N	D
[J]				
JBTN-2107XHZA	2- 4	AG	N	C
JBTN-2175XHZA	2- 5	AG	N	C
JBTN-2176XHSA	2- 6	AE	N	C
JBTN-2178XHSA	2- 7	AD	N	C
JBTN-2180XHZA	2- 8	AD	N	C
JBTN-2190XHZA	2- 9	AD	N	C
[L]				
LBNDJ0002FCZZ	1- 9	AA		C
LBNDJ2006XHZZ	1- 63	AA		C
LBSHP2082XHZZ	1- 10	AC	N	C
LFRM-2164XHZA	5- 2	AN	N	C
LFRM-2171XHZZ	1- 11	AL	N	C
LFRM-2172XHZZ	4- 2	AM	N	C
LHLDW2160SCZZ	1- 61	AD		C
LPLTG2707XHZZ	3- 1	AE		C
LPLTM2835XHZZ	1- 69	AK		C
LPLTM2836XHZZ	4- 3	AE	N	C
LPLTP2790XHZZ	3- 2	AD	N	C
LPLTP2838XHZZ	4- 16	AH	N	C
LPLTP2839XHZZ	1- 48	AH	N	C
LPLTP2841XHZZ	1- 13	AH	N	C
LSTPF2046XHZZ	1- 14	AF	N	C
LX-BZ2138XHZZ	50- 18	AB		C
LX-BZ2210XHZZ	50- 17	AC		C
LX-BZ2214XHZZ	50- 19	AC	N	C
[M]				
MCAMP2022XHZA	4- 4	AC	N	C
MLEVP2214XHZZ	3- 3	AC	N	C
MLEVP2215XHZZ	3- 4	AF	N	C
MLEVP2232XHZZ	4- 5	AD	N	C
MLEVP2233XHZZ	4- 6	AC	N	C
MLEVP2234XHZA	4- 7	AE	N	C
MLEVP2235XHZZ	1- 15	AD	N	C
MLEVP2236XHZA	1- 16	AE	N	C
MSPRB2883XHZZ	1- 62	AC		C
MSPRC2735XHZZ	4- 17	AC		C
MSPRC2832XHZZ	1- 18	AC	N	C
MSPRC2834XHZZ	1- 19	AD	N	C
MSPRC2855XHZZ	4- 23	AC	N	C
MSPRC2877XHZZ	4- 8	AC	N	C
MSPRC2884XHZZ	1- 17	AC	N	C
MSPRC2885XHZZ	4- 22	AC	N	C
MSPRC2886XHZZ	1- 43	AC		C
MSPRD2814XHZZ	3- 5	AC	N	C
MSPRD2848XHZZ	4- 9	AC	N	C
MSPRD2849XHZZ	1- 20	AD	N	C
MSPRD2874XHZZ	1- 21	AF	N	C
MSPRP2812XHZZ	3- 6	AE	N	C
MSPRP2817XHZZ	5- 3	AC	N	C
MSPRT2813XHZZ	3- 7	AC	N	C
MSPRT2815XHFJ	3- 8	AC	N	C
MSPRT2853XHZZ	1- 49	AD	N	C
[N]				
NBRGP2141XHZZ	3- 16	AH		C
NGERH2240XHZZ	4- 10	AC		C
NGERH2278XHZZ	4- 11	AC		C
NGERH2279XHZZ	4- 12	AC		C
NGERH2305XHZZ	3- 15	AC	N	C
NGERH2316XHZZ	3- 9	AC	N	C
〃	4- 18	AC	N	C
NGERH2317XHZZ	3- 10	AC	N	C
NGERH2328XHZZ	4- 13	AC	N	C
NGERH2329XHZZ	1- 23	AC	N	C
NGERH2331XHZZ	1- 53	AE	N	C
NGERH2332XHZZ	4- 19	AC	N	C
NGERP2318XHZZ	1- 24	AD	N	C
NROLP2334XHZZ	1- 25	AE	N	C
〃	3- 11	AE	N	C
NROLR2327XHZZ	3- 17	AQ	N	C
NROLR2333XHZZ	1- 27	AP	N	C
NROLR2353XHZZ	1- 28	AX	N	C
NSFTZ2257XHZZ	3- 12	AG	N	C
NSFTZ2258XHZZ	1- 29	AF	N	C
NSFTZ2264XHZZ	1- 50	AL	N	C
[P]				
PCUSS2098XHZZ	1- 37	AB	N	C
PCUT-2034SCZZ	1- 54	AU	N	C
PFLT-2006XHZZ	1- 72	AA		C
〃	5- 14	AA		C
PGIDM2449XHZA	1- 30	AF	N	C
PGIDM2450XHZA	1- 31	AF	N	C
PGIDM2460XHZZ	1- 32	AD	N	C
PGIDM2461XHZZ	1- 33	AD	N	C
PGIDM2463XHZZ	1- 55	AD	N	C
PGIDM2464XHZZ	1- 56	AD	N	C
PGIDM2465XHZZ	1- 34	AT	N	C
PGIDM2466XHZZ	1- 57	AF	N	C
PGIDM2474XHZZ	3- 13	AF	N	C
PGIDP2462XHZA	1- 35	AT	N	C
PGLSP2058XHZZ	5- 4	AE	N	C
PGUMM2111XHZZ	2- 10	AD	N	C
PLNS-2049XHZZ	5- 5	AZ	N	C
PMIR-2070XHZZ	5- 6	AG	N	C
PMIR-2071XHZZ	5- 7	AH	N	C
PMIR-2072XHZZ	5- 8	AH	N	C
PSHEZ3031XHZZ	1- 36	AA		C
PSHEZ3196XHZZ	5- 9	AC	N	C
PSHEZ3199XHZZ	3- 14	AD	N	C
PSHEZ3214SCZZ	2- 11	AM	N	C
PSHEZ3234SCZZ	1- 52	AC	N	C
PSHEZ3239XHZZ	3- 18	AC	N	C
PSHEZ3248XHZZ	1- 70	AC		C
PSHEZ3250SCZZ	5- 15	AC		C
PSHEZ3253XHZZ	1- 26	AC		C
PSHEZ3255SCZZ	4- 21	AD	N	C
PSHEZ3258XHZZ	5- 13	AC		C
PSHEZ3259XHZZ	6- 14	AC		D
PSHEZ3266SCZZ	1- 68	AD	N	C
PSHEZ3269SCZZ	1- 67	AD	N	C
PSPAG2222SCZZ	1- 64	AC	N	C
PSPAK2221XHZZ	4- 24	AC	N	C
PSPAZ2213XHZZ	1- 71	AE		C
PSPAZ2216XHZZ	1- 12	AC	N	C
PTME-2050XHZZ	1- 60	AD	N	C
PWIR-2023XHZZ	6- 13	AP	N	D
[Q]				
QACCB7125SCZZ	1- 38	AZ		B
QCNCM2401SC0B	7- 119	AA		C
〃	8- 69	AA		C
QCNCM2401SC0H	8- 68	AC		C
QCNCM2442SC0B	7- 118	AB		C
QCNCM2467SC0C	8- 183	AB		C
QCNCM2499SC0H	7- 121	AE	N	C
QCNCM2499SC1A	7- 122	AF	N	C
QCNCM7014SC0B	7- 120	AD		C
〃	7- 125	AD		C
QCNCM7014SC0F	7- 123	AB		C
QCNCM7014SC0G	7- 117	AB		C
QCNCM7014SC1C	7- 127	AC		C
QCNCM7014SC1F	7- 124	AD	N	C
QCNCW2468SC0C	8- 182	AB		C
QCNCW2500SC0H	8- 65	AF		C
QCNCW2500SC0I	7- 126	AF	N	C
QCNCW2500SC1A	8- 66	AE		C
QCNW-3976XHAG	6- 3	AH		C
QCNW-4266XHZZ	6- 20	AF		C
QCNW-4494SCBK	6- 2	AF		C
QCNW-4588XHZZ	4- 14	AD	N	C
QCNW-4589XHZZ	5- 11	AD	N	C
QCNW-4590XHZZ	1- 39	AL	N	C
QCNW-4591XHZZ	1- 40	AE	N	C
QCNW-4593XHZZ	10- 3	AL	N	C
QCNW-4614XHZZ	4- 20	AD	N	C
QCNW-4615XHZZ	1- 58	AE	N	C
QCNW-4619XHZZ	8- 3	AE	N	C
QCNW-4672XHZA	1- 41	AF	N	C
QJAKZ2046SCDD	8- 67	AK		C
QJAKZ2065SC0D	8- 64	AG		C
QSOCZ2053XH32	7- 135	AK		C
QSW-F2224SCZZ	4- 15	AE		C
QSW-M2238SCZZ	1- 59	AF	N	C
QSW-Z2214SCZZ	8- 184	AH		B
[R]				
RC-EZ2022SCZZ	8- 4	AB		C
RC-FZ2012SCZZ	8- 11	AE		C
RCILZ2138SCZZ	7- 151	AC		C
〃	7- 152	AC		C
〃	7- 153	AC		C
〃	7- 154	AC		C
〃	7- 156	AC		C
〃	7- 157	AC		C
〃	7- 159	AC		C
RCILZ2139SCZZ	7- 155	AC		C
RCORF1030LCZZ	1- 42	AE		B
RCORF2063XHZZ	1- 22	AF		B
RCORF2103XHZZ	1- 44	AF	N	B
RCRM-0091AFZZ	8- 188	AE		B
RCRSB0297AFZZ	7- 323	AD		B
RCRSP2080SCZZ	7- 321	AF		B
RCRSP2327RCZZ	7- 322	AD		B
RDENT2102XHZZ	1- 45	BN	N	E
〃	9- 901	BN	N	E
RHEDZ2046XHZZ	1- 46	BT		B
RMOTZ2126XHZZ	4- 1	AZ	N	B
RMPTW4271SCJF	7- 319	AD	N	C
〃	7- 320	AD	N	C
RRLYZ3420SCZZ	8- 63	AN	N	B
RTRNI2142XHZZ	8- 186	AR		B
RTRNZ2140XHZZ	8- 185	AN		B
[S]				
SPAKA042AXHZZ	6- 12	AF	N	D
SPAKA043AXHZZ	6- 6	AF	N	D
SPAKA4868XHZL	6- 4	AF	N	D
SPAKA4868XHZR	6- 5	AF	N	D
SPAKC007AXHZZ	6- 7	AF	N	D
SPAKP3385SCZZ	6- 8	AG	N	D
SSAKA0003HCZZ	6- 9	AA	N	D
SSAKA1340QCZZ	6- 16	AB		D
[T]				
TCADZ2308XHZA	6- 17	AC		D
TCADZ2309XHZA	6- 18	AC		D
TCADZ2310XHZZ	6- 19	AC		D
TINSE3665XHZZ	6- 10	AF	N	D
TLABH3841XHZZ	1- 66	AD	N	C
TLABH3938XHZZ	6- 11	AD	N	D
TLABM3677XHZZ	1- 73	AD		C
TLABS4052XHZZ	1- 65	AD	N	C
TLABZ2549XHZZ	6- 15	AD		D
[U]				
UBATL2044SCZZ	7- 1	AL	N	B
[V]				
VCCCTV1HH101J	8- 40	AA		C
VCCCTV1HH150J	7- 52	AA		C
〃	7- 63	AA		C
VCCCTV1HH180J	7- 85	AA		C
VCCCTV1HH240J	7- 14	AA		C
VCCCTV1HH270J	7- 13	AC		C
VCCCTV1HH300J	8- 59	AA		C
〃	8- 60	AA		C
VCCCTV1HH470J	7- 96	AA		C
VCCSTV1HL101J	7- 59	AA		C
〃	7- 69	AA		C
〃	7- 92	AA		C
〃	7- 93	AA		C
〃	7- 97	AA		C

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
VCCSTV1HL101J	7- 98	AA		C
〃	7- 102	AA		C
〃	7- 103	AA		C
〃	7- 104	AA		C
〃	7- 105	AA		C
〃	7- 106	AA		C
〃	7- 107	AA		C
VCCSTV1HL391J	7- 35	AA		C
VCEAEA1CW106M	7- 7	AC		C
VCEAEA1EW226M	7- 5	AA		C
〃	7- 6	AA		C
VCEAEA1HW226M	7- 8	AB		C
〃	7- 9	AB		C
〃	7- 10	AB		C
〃	7- 11	AB		C
VCEAGA1AW107M	8- 16	AB		C
VCEAGA1AW336M	8- 13	AA		C
VCEAGA1CW106M	7- 2	AA		C
〃	7- 3	AA		C
VCEAGA1CW107M	8- 7	AC		C
VCEAGA1EW226M	7- 4	AB		C
VCEAGA1EW476M	8- 8	AA		C
〃	8- 14	AA		C
VCEAGA1HW105M	8- 6	AB		C
〃	8- 17	AB		C
〃	8- 18	AB		C
〃	8- 24	AB		C
VCEAGA1HW106M	8- 12	AA		C
〃	8- 22	AA		C
〃	8- 23	AA		C
VCEAGA1HW225M	8- 21	AA		C
VCEAGA1HW226M	8- 9	AB		C
〃	8- 10	AB		C
〃	10- 1	AB		C
VCEAGA1HW335M	8- 15	AB		C
VCEAGA1HW475M	8- 5	AA		C
VCEAGA2AW474M	8- 19	AC		C
VCKYPU1HF223Z	10- 2	AA		C
VCKYTQ1EB224K	8- 27	AB		C
VCKYTQ1HB104K	8- 30	AB		C
〃	8- 39	AB		C
VCKYTQ1HB473K	8- 29	AA		C
VCKYTQ1HB563K	8- 28	AA		C
VCKYTV1CF105Z	7- 16	AB		C
〃	7- 21	AB		C
〃	7- 23	AB		C
〃	7- 27	AB		C
〃	7- 30	AB		C
〃	7- 32	AB		C
〃	7- 33	AB		C
〃	7- 41	AB		C
〃	7- 45	AB		C
〃	7- 101	AB		C
〃	8- 62	AB		C
VCKYTV1EB104K	7- 18	AA		C
〃	7- 24	AA		C
〃	7- 88	AA		C
VCKYTV1EF104Z	7- 12	AA		C
〃	7- 15	AA		C
〃	7- 17	AA		C
〃	7- 19	AA		C
〃	7- 22	AA		C
〃	7- 26	AA		C
〃	7- 29	AA		C
〃	7- 37	AA		C
〃	7- 49	AA		C
〃	7- 50	AA		C
〃	7- 51	AA		C
〃	7- 53	AA		C
〃	7- 54	AA		C
〃	7- 56	AA		C
〃	7- 60	AA		C
〃	7- 61	AA		C
〃	7- 62	AA		C
〃	7- 66	AA		C
〃	7- 75	AA		C
〃	7- 76	AA		C
〃	7- 77	AA		C
〃	7- 81	AA		C
〃	7- 86	AA		C

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
VCKYTV1EF104Z	7- 90	AA		C
〃	7- 94	AA		C
〃	7- 108	AA		C
〃	7- 111	AA		C
〃	7- 115	AA		C
〃	7- 116	AA		C
VCKYTV1HB102K	7- 20	AA		C
〃	7- 28	AA		C
〃	7- 31	AA		C
〃	7- 36	AA		C
〃	7- 38	AA		C
〃	7- 39	AA		C
〃	7- 40	AA		C
〃	7- 42	AA		C
〃	7- 43	AA		C
〃	7- 44	AA		C
〃	7- 46	AA		C
〃	7- 47	AA		C
〃	7- 48	AA		C
〃	7- 55	AA		C
〃	7- 57	AA		C
〃	7- 58	AA		C
〃	7- 67	AA		C
〃	7- 68	AA		C
〃	7- 70	AA		C
〃	7- 71	AA		C
〃	7- 72	AA		C
〃	7- 73	AA		C
〃	7- 74	AA		C
〃	7- 78	AA		C
〃	7- 79	AA		C
〃	7- 80	AA		C
〃	7- 82	AA		C
〃	7- 83	AA		C
〃	7- 87	AA		C
〃	7- 91	AA		C
〃	7- 95	AA		C
〃	7- 99	AA		C
〃	7- 113	AA		C
〃	8- 32	AA		C
〃	8- 34	AA		C
〃	8- 38	AA		C
VCKYTV1HB103K	7- 25	AB		C
〃	7- 65	AB		C
〃	8- 31	AB		C
〃	8- 33	AB		C
〃	8- 43	AB		C
〃	8- 44	AB		C
〃	8- 45	AB		C
〃	8- 46	AB		C
〃	8- 61	AB		C
VCKYTV1HB183K	7- 34	AA		C
〃	8- 42	AA		C
VCKYTV1HB222K	7- 84	AA		C
〃	7- 89	AA		C
〃	7- 100	AA		C
〃	7- 109	AA		C
〃	7- 110	AA		C
〃	7- 112	AA		C
〃	7- 114	AA		C
VCKYTV1HB223K	8- 35	AA		C
VCKYTV1HB331K	8- 51	AA		C
〃	8- 52	AA		C
〃	8- 53	AA		C
〃	8- 54	AA		C
〃	8- 55	AA		C
〃	8- 56	AA		C
〃	8- 57	AA		C
〃	8- 58	AA		C
VCKYTV1HB472K	7- 64	AA		C
〃	8- 36	AA		C
VCKYTV1HB561K	8- 25	AA		C
VCKYTV1HB562K	8- 41	AA		C
VCKYTV1HB681K	8- 47	AA		C
VCKYTV1HF223Z	8- 37	AA		C
〃	8- 48	AA		C
〃	8- 49	AA		C
〃	8- 50	AA		C
VCQYNA1HM224K	8- 20	AC		C
VCQYNU1HM102K	9- 26	AB		C

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
VCQYNU1HM472K	9- 24	AB		
VC2SC2412KR-1	8- 101	AD		B
〃	8- 102	AD		B
〃	8- 103	AD		B
VHDDAP202K/-1	7- 130	AB		B
VHDDSS131//-1	8- 70	AA		B
VHDDSS133//-1	8- 72	AA		B
VHDRB421D//-1	8- 73	AC		B
VHD0R5G4B42-1	8- 181	AF		B
VHD1SS355//-1	7- 128	AB		B
〃	7- 129	AB		B
〃	7- 131	AB		B
〃	7- 132	AB		B
VHD1SS82///-1	8- 71	AB		B
VHEHZS3B1//-1	8- 189	AC		B
〃	8- 190	AC		B
〃	8- 199	AC		B
〃	8- 200	AC		B
〃	8- 201	AC		B
〃	8- 202	AC		B
〃	8- 203	AC		B
〃	8- 204	AC		B
〃	8- 205	AC		B
〃	8- 206	AC		B
VHEHZ11C3//-1	8- 197	AB		B
VHEHZ15-2//-1	8- 194	AB		B
VHEHZ2A1///-1	8- 195	AC		B
〃	8- 196	AC		B
VHEMTZJ3R9B-1	8- 192	AC		B
〃	8- 193	AC		B
VHEMTZJ300B-1	8- 191	AA		B
VHEMTZJ5R6B-1	8- 198	AB		B
VHERD22FB3/-1	7- 324	AC		B
VHIBU8307CF/1	8- 79	AT		B
VHIHEF4066BT1	7- 144	AF	N	B
〃	7- 145	AF	N	B
VHIMC14053DR2	8- 78	AE		B
VHIMC74HCU04F	7- 142	AD		B
VHINJM2113M-1	8- 75	AG		B
VHINJM2903M/-	7- 146	AD		B
VHINJM2904M-1	7- 137	AE		B
VHINJM318M/-F	7- 141	AF		B
VHINJM4558MF-	7- 139	AC		B
〃	8- 76	AC		B
〃	8- 77	AC		B
VHIPST591CMT1	7- 148	AE		B
VHIR96SFELC-1	7- 140	BG		B
〃	7- 143	BG	N	B
VHITCD1208GL1	10- 4	AX		B
VHITEA1062A-1	8- 74	AR		B
VHIULN2003AN/	7- 147	AE		B
VHIW24257S7LL	7- 138	AP	N	B
VHI27C10FVL0F	7- 135	BM	N	B
VHPSG206S//-1	8- 89	AG		B
VHPSNK15A24-1	5- 12	AZ	N	B
VHPTLP521-1BL	8- 82	AE		B
〃	8- 83	AE		B
〃	8- 84	AE		B
〃	8- 85	AE		B
〃	8- 86	AE		B
〃	8- 87	AE		B
〃	8- 88	AE		B
VHPTLP620//-1	8- 81	AF		B
VHPTLP627//-1	8- 80	AH		B
VHVICPN20//-1	7- 134	AD		B
VHVRA501PV6-1	8- 1	AE	N	B
〃	8- 2	AE		B
VHVTN07G101-1	8- 187	AB		B
VRD-HT2HY101J	8- 110	AA		C
VRD-HT2HY114J	8- 108	AB		C
VRD-HT2HY200J	8- 111	AA		C
VRD-RC2EY100J	7- 133	AA		C
VRD-RC2EY222J	10- 6	AA		C
VRD-RC2EY390J	10- 7	AA		C
VRS-HT3AA103J	8- 109	AA		C
VRS-HT3AA560J	8- 112	AA		C
VRS-TP2BD000J	7- 149	AA		C
〃	7- 150	AA		C
〃	7- 158	AA		C
〃	7- 160	AA		C

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
VRS-TP2BD000J	7- 318	AA		C
VRS-TS2AD000J	7- 169	AA		C
〃	7- 174	AA		C
〃	7- 175	AA		C
〃	7- 182	AA		C
〃	7- 186	AA		C
〃	7- 195	AA		C
〃	7- 226	AA		C
〃	7- 266	AA		C
〃	8- 26	AA		C
〃	8- 114	AA		C
〃	8- 128	AA		C
〃	8- 132	AA		C
〃	8- 172	AA		C
VRS-TS2AD100J	7- 184	AA		C
〃	7- 185	AA		C
〃	7- 187	AA		C
〃	7- 188	AA		C
〃	7- 206	AA		C
〃	7- 207	AA		C
〃	7- 208	AA		C
〃	7- 209	AA		C
〃	7- 211	AA		C
〃	7- 219	AA		C
VRS-TS2AD102J	7- 176	AA		C
〃	7- 246	AA		C
〃	8- 149	AA		C
〃	8- 158	AA		C
〃	8- 179	AA		C
VRS-TS2AD103J	7- 179	AA		C
〃	7- 183	AA		C
〃	7- 191	AA		C
〃	7- 192	AA		C
〃	7- 193	AA		C
〃	7- 194	AA		C
〃	7- 197	AA		C
〃	7- 210	AA		C
〃	7- 212	AA		C
〃	7- 214	AA		C
〃	7- 217	AA		C
〃	7- 218	AA		C
〃	7- 225	AA		C
〃	7- 238	AA		C
〃	7- 243	AA		C
〃	7- 250	AA		C
〃	7- 252	AA		C
〃	7- 253	AA		C
〃	7- 265	AA		C
〃	7- 270	AA		C
〃	7- 271	AA		C
〃	7- 275	AA		C
〃	7- 277	AA		C
〃	7- 279	AA		C
〃	7- 296	AA		C
〃	7- 304	AA		C
〃	7- 305	AA		C
〃	8- 116	AA		C
〃	8- 171	AA		C
VRS-TS2AD104J	7- 292	AA		C
〃	8- 117	AA		C
〃	8- 131	AA		C
〃	8- 151	AA		C
〃	8- 152	AA		C
〃	8- 161	AA		C
VRS-TS2AD105J	7- 254	AA		C
VRS-TS2AD106J	7- 267	AA		C
VRS-TS2AD122J	8- 150	AA		C
VRS-TS2AD124J	8- 124	AA		C
〃	8- 154	AA		C
VRS-TS2AD134J	7- 307	AA		C
〃	8- 121	AA		C
〃	8- 141	AA		C
〃	8- 173	AA		C
VRS-TS2AD151J	7- 257	AA		C
〃	7- 297	AA		C
VRS-TS2AD153J	8- 129	AA		C
VRS-TS2AD154J	8- 160	AA		C
VRS-TS2AD162J	8- 120	AA		C
〃	8- 168	AA		C
VRS-TS2AD163J	7- 309	AA		C

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
VRS-TS2AD183J	8- 162	AA		C
〃	8- 175	AA		C
VRS-TS2AD202J	8- 125	AA		C
〃	8- 133	AA		C
〃	8- 165	AA		C
VRS-TS2AD203J	7- 294	AA		C
〃	7- 298	AA		C
〃	8- 139	AA		C
〃	8- 140	AA		C
〃	8- 143	AA		C
〃	8- 144	AA		C
〃	8- 145	AA		C
〃	8- 169	AA		C
〃	8- 170	AA		C
VRS-TS2AD204J	8- 155	AA		C
〃	8- 156	AA		C
〃	8- 157	AA		C
〃	8- 177	AA		C
〃	8- 178	AA		C
VRS-TS2AD221J	7- 316	AA		C
〃	8- 180	AA		C
VRS-TS2AD223J	7- 196	AA		C
〃	7- 224	AA		C
〃	7- 315	AA		C
VRS-TS2AD224J	8- 123	AA		C
VRS-TS2AD241J	8- 164	AA		C
VRS-TS2AD271J	7- 168	AA		C
〃	7- 213	AA		C
〃	7- 215	AA		C
〃	7- 216	AA		C
〃	7- 220	AA		C
〃	7- 221	AA		C
〃	7- 222	AA		C
〃	7- 223	AA		C
〃	7- 227	AA		C
〃	7- 228	AA		C
〃	7- 229	AA		C
〃	7- 230	AA		C
〃	7- 231	AA		C
〃	7- 232	AA		C
〃	7- 233	AA		C
〃	7- 234	AA		C
〃	7- 235	AA		C
〃	7- 236	AA		C
〃	7- 237	AA		C
〃	7- 239	AA		C
〃	7- 240	AA		C
〃	7- 241	AA		C
〃	7- 242	AA		C
〃	7- 244	AA		C
〃	7- 245	AA		C
〃	7- 251	AA		C
〃	7- 255	AA		C
〃	7- 256	AA		C
〃	7- 258	AA		C
〃	7- 259	AA		C
〃	7- 260	AA		C
〃	7- 261	AA		C
〃	7- 262	AA		C
〃	7- 263	AA		C
〃	7- 264	AA		C
〃	7- 268	AA		C
〃	7- 269	AA		C
〃	7- 272	AA		C
〃	7- 273	AA		C
〃	7- 274	AA		C
〃	7- 276	AA		C
〃	7- 280	AA		C
〃	7- 281	AA		C
〃	7- 282	AA		C
〃	7- 283	AA		C
〃	7- 284	AA		C
〃	7- 288	AA		C
〃	7- 290	AA		C
〃	7- 291	AA		C
〃	7- 299	AA		C
〃	7- 301	AA		C
〃	7- 302	AA		C
〃	7- 311	AA		C
〃	7- 312	AA		C

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
VRS-TS2AD273J	7- 202	AA		C
VRS-TS2AD3R0J	7- 180	AA		C
VRS-TS2AD302J	7- 205	AA		C
〃	7- 278	AA		C
〃	7- 295	AA		C
〃	8- 119	AA		C
VRS-TS2AD303J	7- 204	AA		C
VRS-TS2AD332J	7- 314	AA		C
〃	8- 148	AA		C
VRS-TS2AD333J	7- 200	AA		C
〃	7- 203	AA		C
〃	7- 248	AA		C
〃	7- 249	AA		C
〃	7- 285	AA		C
〃	7- 289	AA		C
〃	7- 303	AA		C
〃	7- 306	AA		C
〃	7- 308	AA		C
〃	7- 310	AA		C
VRS-TS2AD391J	8- 127	AA		C
VRS-TS2AD392J	8- 122	AA		C
VRS-TS2AD394J	7- 317	AA		C
VRS-TS2AD471J	7- 190	AA		C
〃	8- 115	AA		C
〃	8- 136	AA		C
〃	8- 137	AA		C
〃	8- 138	AA		C
〃	8- 166	AA		C
〃	8- 174	AA		C
VRS-TS2AD472J	7- 171	AA		C
〃	7- 172	AA		C
〃	7- 173	AA		C
〃	7- 198	AA		C
〃	8- 135	AA		C
VRS-TS2AD474J	7- 300	AA		C
〃	8- 176	AA		C
VRS-TS2AD561J	8- 167	AA		C
VRS-TS2AD562J	7- 170	AA		C
〃	7- 293	AA		C
〃	7- 313	AA		C
VRS-TS2AD623J	8- 142	AA		C
VRS-TS2AD681J	8- 126	AA		C
VRS-TS2AD683J	8- 146	AA		C
〃	8- 147	AA		C
〃	8- 153	AA		C
VRS-TS2AD752J	8- 134	AA		C
VRS-TS2AD753J	8- 118	AA		C
〃	8- 130	AA		C
VRS-TS2AD820J	7- 189	AA		C
〃	7- 286	AA		C
〃	7- 287	AA		C
〃	8- 159	AA		C
VRS-TS2AD822J	7- 247	AA		C
VRS-TS2AD910J	8- 113	AA		C
VRSTS2AD1183F	7- 177	AA		C
VRSTS2AD3651F	8- 163	AA		C
VRSTS2AD3652F	7- 201	AA		C
VRSTS2AD4752F	7- 181	AA		C
VRSTS2AD8662F	7- 178	AA		C
〃	7- 199	AA		C
VSRNC1402//-1	7- 162	AC		B
〃	7- 163	AC		B
〃	7- 164	AC		B
〃	7- 165	AC		B
〃	7- 166	AC		B
〃	7- 167	AC		B
〃	8- 91	AC		B
〃	8- 92	AC		B
〃	8- 95	AC		B
〃	8- 96	AC		B
〃	8- 97	AC		B
〃	8- 98	AC		B
〃	8- 104	AC		B
VSRNC1420//-1	8- 93	AC		C
VS2SA1037KR-1	8- 100	AB		B
VS2SA1807-P-1	8- 90	AE		B
VS2SC1815GR-1	10- 5	AB		C
VS2SC2412KR-1	8- 99	AD		B
〃	8- 106	AD		B
〃	8- 107	AD		B

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
VS2SC2412KS-1	7- 161	AB		B
VS2SC4061K/-1	8- 94	AC		B
VS2SJ106GR/-1	8- 105	AD		B
[X]				
XBPSD30P06K00	50- 1	AA		C
XBPSN40P06K00	50- 5	AA		C
XEBSD30P06000	50- 6	AA		C
XEBSD30P08000	50- 7	AA		C
XEBSD30P10000	50- 8	AA		C
XEBSD30P12000	50- 9	AA		C
XEBSD30P16000	50- 2	AA		C
XEBSF30P10000	50- 16	AA		C
XHBSD30P06000	50- 15	AA		C
XUBSD20P06000	50- 13	AA		C
[0]				
0CBBFZ89154Z/	9- 3	AC		
0CBLRZ6251ZQ/	9- 53	AP		C
0CBLRZ6252ZP/	9- 54	AP		C
0CBLRZ6279ZP/	9- 55	AP		C
0CBPCZ0211ZZ/	9- 57	AG	N	
0CBPHZ0163ZZ/	9- 47	AR	N	
0CBPJCTY1251/	9- 49	AK		A
0CBPKZ0194ZZ/	9- 56	AC		C
0CBPZZ0602ZZ/	9- 50	AC		C
0CBSBD0508ZZ/	9- 51	AC		
0CBUAC0023AZ/	9- 6	AD		B
0CBUAC0027AZ/	9- 5	AE		B
0CBUAC0056AZ/	9- 7	AD		B
0CBUAG0161CZ/	9- 4	AP		
0CBUBA0003BK/	9- 11	AD		B
0CBUBB0216BZ/	9- 12	AL		B
0CBUBC0215DK/	9- 9	AD		B
0CBUBC0248AZ/	9- 10	AD		B
0CBUBC0302AZ/	9- 13	AE		B
0CBUBDAC270B/	9- 14	AC		B
0CBUBDAC3R3C/	9- 15	AD		
0CBUBDAC6R2C/	9- 16	AC		B
0CBUBDAE300D/	9- 17	AD		B
0CBUCB0107AZ/	9- 8	AQ		B
0CBUDC0163BB/	9- 19	AH		B
0CBUDZ0052ZZ/	9- 48	AG		B
0CBUEEB101CT/	9- 36	AC		C
0CBUEEB153CT/	9- 35	AC		C
0CBUEEB242CT/	9- 45	AC		C
0CBUEEB271CT/	9- 43	AC		C
0CBUEEB330CW/	9- 41	AC		C
0CBUEEB564CT/	9- 37	AC		C
0CBUEEB682CT/	9- 44	AC		C
0CBUEEC122BS/	9- 42	AC		C
0CBUEEC271BS/	9- 40	AC	N	
0CBUEFC564BA/	9- 33	AC		C
0CBUEFER33CH/	9- 34	AC		
0CBUEFE104AV/	9- 38	AD	N	
0CBUEFE391CE/	9- 39	AD		
0CBUEZ0507ZZ/	9- 18	AD		
0CBUFBA501DH/	9- 46	AC		B
0CBUGAC101HD/	9- 31	AC		C
0CBUGAC471UM/	9- 30	AF		C
0CBUGAE681UG/	9- 28	AH		C
0CBUGCM102AT/	9- 58	AE		C
0CBUGCM222BJ/	9- 32	AF	N	
0CBUGCM472AU/	9- 27	AF	N	
0CBUGCS222AP/	9- 29	AC		C
0CBUGCU152BR/	9- 22	AF	N	
0CBUGCU221BQ/	9- 23	AD		C
0CBUGFF683AR/	9- 25	AD		C
0CBUGZ0975ZZ/	9- 20	AF		C
0CBUGZ1072ZZ/	9- 21	AN		C
0CBUKZ0826ZZ/	9- 2	AK		B
0CB829650012/	9- 1	BD		B

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK

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